

# AMERICAN FRUIT GROWER

Vol. XL  
No. 6



JUNE, 1920



Ten Cents  
A Copy



*Edited by Samuel Adams*

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# Barrett Everlastic Roofings

Farm house and out building covered with Everlastic Shingles in the red tone.

## Everlastic "Rubber" Roofing

A recognized standard among "rubber" roofings. Famous for its durability. Made of high-grade waterproofing materials, it defies wind and weather and insures dry comfortable buildings under all weather conditions. Nails and cement with each roll.



## Everlastic Slate-Surfaced Roofing

A high-grade roll roofing, surfaced with genuine crushed slate, in two natural shades, red or green. Needs no painting. Handsome enough for a home, economical enough for a barn or garage. Combines real protection against fire with beauty. Nails and cement with each roll.

## Everlastic Multi-Shingles (4-Shingles-in-One)

Made of high-grade thoroughly waterproofed felt and surfaced with

crushed slate in beautiful natural slate colors, either red or green. Laid in strips of four shingles in one at

far less cost in labor and time than for wooden shingles. Give you a roof of artistic beauty worthy of the finest buildings, and one that resists fire and weather. Need no painting.

## Everlastic Tylike Shingles

Made of the same durable slate-surfaced (red or green) material as the Multi-Shingles, but cut into individual shingles, 8 x 12 3/4 inches. Laid like wooden shingles, but cost less per year of service. Need no painting.

## Horse sense about Roofing—

ROOFING that won't last isn't worth putting on. For it takes just as much time to lay a "roof-peddler's bargain" as it does to lay the best roofing your money can buy. And the cost of labor is a big item these days.

The only way to get your money's worth is to use roofings that are sure to give you long service.

That's horse sense, isn't it?

You can't go wrong if you use Barrett Everlastic Roofings. They have back of them sixty years of manufacturing experience. They sell at a low price, and you have your choice of four styles—suitable for all kinds of steep-roofed buildings.

All four styles of Everlastic Roofings are briefly described here, but it will pay you to send for our booklets, which tell more about them and contain other valuable roofing facts.

## The Barrett Company

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Lebanon  
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Barn, milk house and silo covered with Everlastic "Rubber" Roofing. Everlastic Shingles in red tone shown on other buildings.







**Most  
Miles  
per  
Dollar**

*You may never need them but once —*

But when you do, you'll be glad of your foresight in taking Firestone Tire Accessories with you.

The Firestone Blowout Patch takes quick and sure care of rim cut, tread cut or blowout on the road till a permanent repair can be made.

Firestone Holdfast All-Rubber Patch Stock with Firestone Patching Cement

repairs all tube injuries, large or small —and makes a quick, permanent repair.

Firestone Hook-on and Lace-on Boots, Reliners, Cementless Tube Patches, Cure-Cut and Mica complete this line of "Big Helps in Little Troubles." Most miles per dollar, the Firestone pledge, applies to Firestone Accessories, too.



Hook-on Boot



Lace-on Boot



Cure-Cut

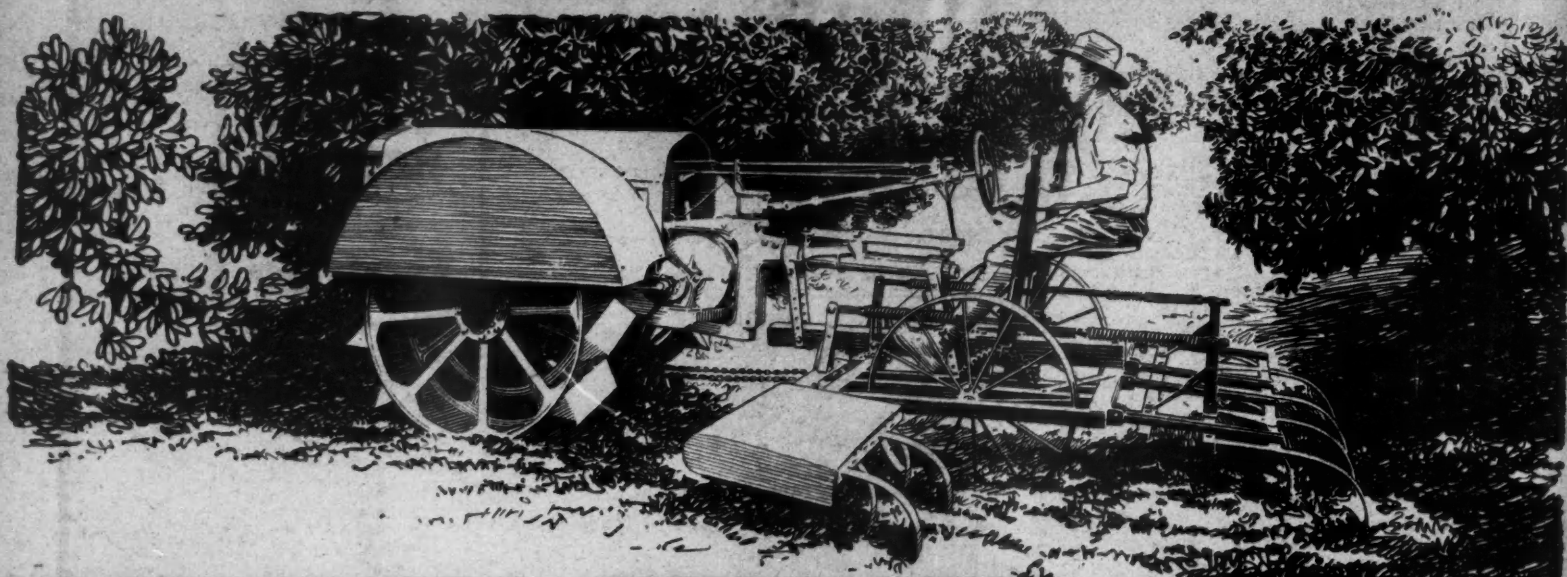


Cementless Tube Patches

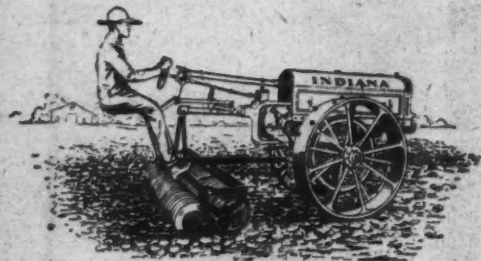
# Firestone

## TIRE ACCESSORIES

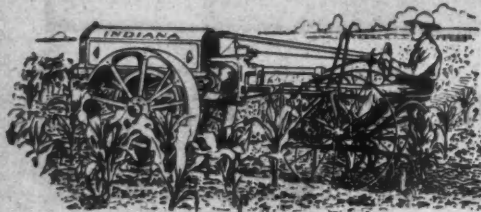




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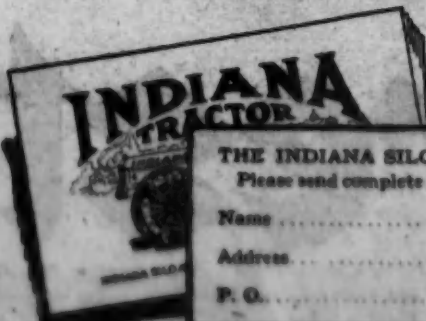
If you need a silo, we have one for you. We are the largest silo manufacturers in the world.

**DEALERS:** This tractor can be used more on more farms than any other. It's the biggest dealer proposition in the field.

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(Title Registered in United States Patent Office.)

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AMERICAN FRUIT GROWER COMPANY, Inc., State-Lake Bldg., Chicago, Ill.

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By N. P. Bassett, Georgia

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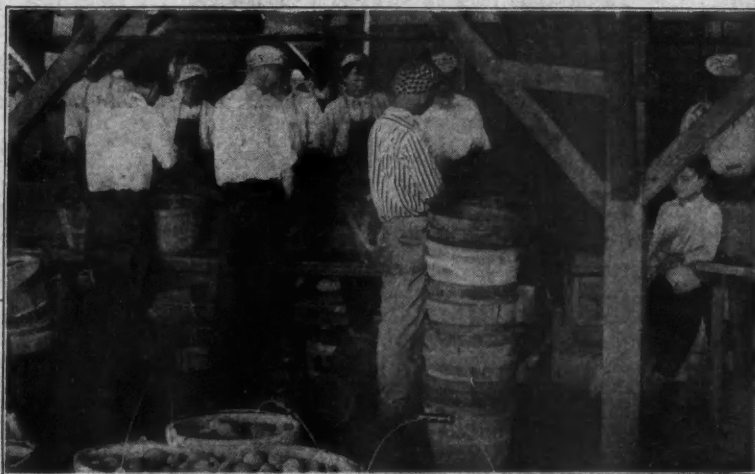
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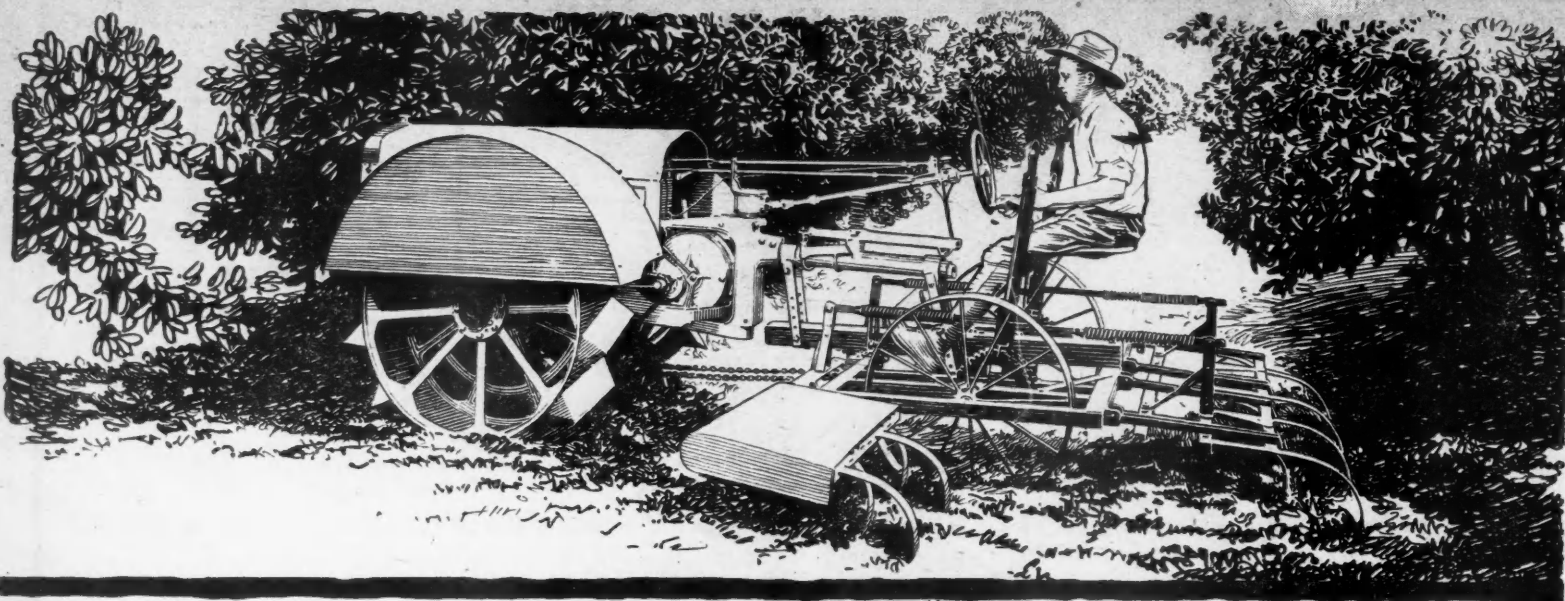
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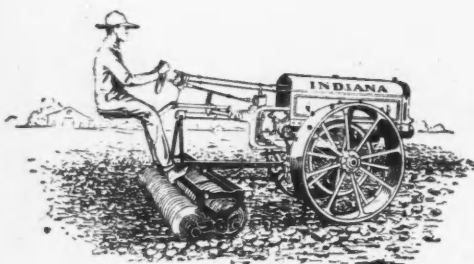


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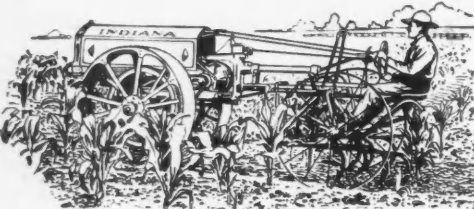




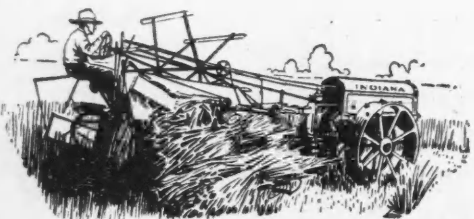
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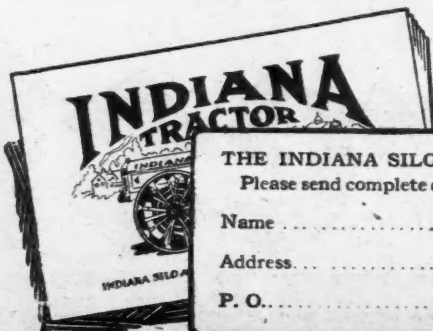
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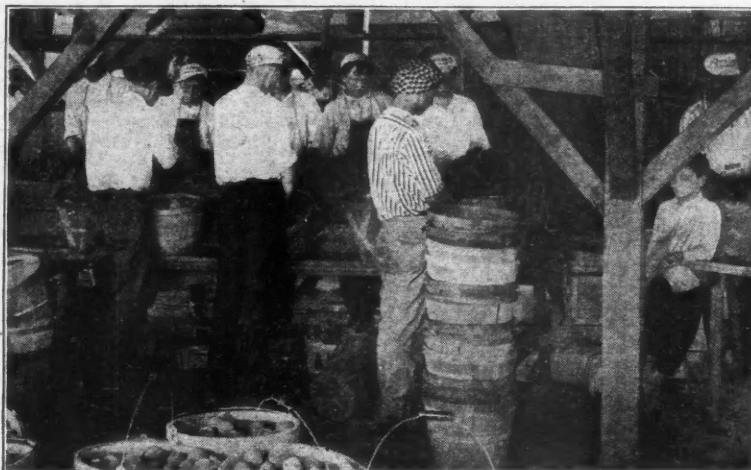
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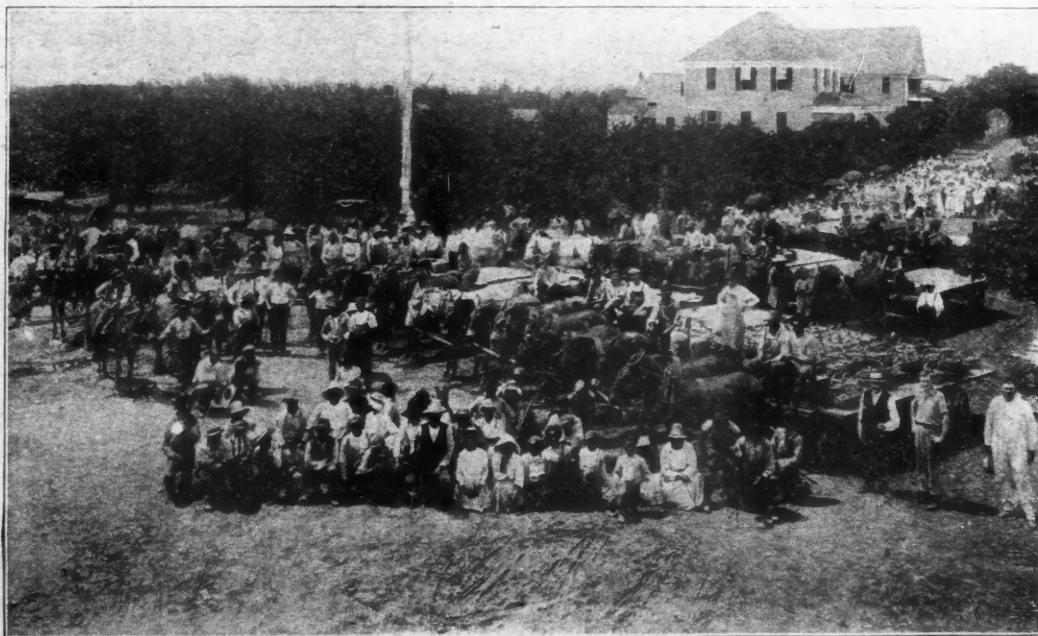
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factory this last season, facilitating greater rapidity in packing and handling the crates. I expect more growers to provide themselves with this time and labor saver next year.

#### Good Management Necessary

Now there must be as good management in the orchard during harvesting as in the packing house. There are a few places in North Georgia where white labor is employed for orchard work, but in the central part of the state negroes are used exclusively.

In the large orchards there is a general field boss and gang leaders. These leaders take a bunch of laborers, men, women and children, and see that they keep busy. It is a difficult job to keep watch over all the hands and see that they do not pick fruit too green and bruise that which is ready to be gathered. They are generally told to handle the fruit like eggs. The proper time to pick peaches is when they are just on the green side of ripe, and the difficult task in training an orchard crew is to teach them what kind of fruit to pick. Large numbers of pickers are employed. Sometimes as many as 300 negroes are seen busy in a single orchard.

After the fruit is picked, it is immediately rushed to the packing house on single-deck, broad-top, and double-deck spring wagons. It is very important to get the fruit out of the sun, packed up and put into the iced car as soon as possible, because it is very quickly softened by heat after being taken from the tree.

Most growers either build their packing house on a spur track or have one run out to it. But some men are unable to secure this advantage. These

have to haul the packed crates to the car on spring wagons or motor trucks. Most growers are now provided with the latter conveyance, but no matter what kind is used it must be provided with good springs to prevent jolting and bruising the fruit.

#### Selling the Peaches

It is always best to sell your fruit on the track provided the buyer is

first thing a buyer does is to pull out three or four crates, take the lids off, and carefully examine each one. They are not particular from what part of the car these sample crates come, but they are careful to select them in such a way that they will be representative of the whole.

Just so surely as a poorly packed crate goes into the car, it seems, nine

#### American Fruit Grower

sample crates and he can't be blamed for turning down the car or offering only a mediocre price if these samples do not look good. This impresses the necessity for rigid inspection in the packing house. The inspector must turn down every crate that fails to come up to the standard.

However, if your fruit measures up to the buyer's demands, as a rule, he is willing to give a satisfactory price. Generally, wherever there are peaches produced in any quantity, a number of buyers are always on hand. A great many come to Fort Valley every season. Fruit is easily sold on the track if it is in proper condition, and selling thus is always preferable as it eliminates the suspense and worry from which the grower must suffer until he receives his returns, which may be good or bad, depending upon the market to which the fruit is shipped.

If the grower prefers to take his chances on the open market, he can consign his fruit to some reliable commission house. These people if they are thoroughly reliable, will sell the fruit to the best advantage, and give their patrons a square deal. But sometimes market conditions are such that the best of salesmen are unable to secure a good price. Such conditions generally result from market gluts. Too much fruit is shipped to one place. It is then that the grower becomes discouraged when at times his returns are nothing and in some cases he is called upon for express charges. But since the organization of the Georgia Fruit Exchange in 1909 this seldom ever happens. Today most growers who are aware of the benefits to be

(Continued on page 14)



An Out-Door Packing Scene on a Small Farm

willing to give a reasonable price. These buyers are shrewd and will not pay a good price unless the fruit is packed properly, not too ripe and up to the standard in every way. In considering a car of peaches, the very

times out of 10, that will be one of the crates that the buyer will examine. This will often lose the sale of a whole car which perhaps contains only one or two other bad crates. However, the buyer has no other guide but the

## How I Produced \$1,703 Off One Acre of Pears

By Warren L. Flagg, Washington

I WILL begin my story by giving a short history of my life and training. I was born in Illinois where I received a common and high school education, and worked on my father's farm during vacation and night and morning. My father was very particular in his farming, and I received good training in the use of the hoe. We generally raised about 50 acres of corn every year and we always went through it with a hoe and every weed was hoed out. This training has proved valuable to me in this irrigated country where a hoe is used so much. In 1902 I was married and moved to Calhoun county, Iowa, where I spent six years raising corn, hogs and cattle. If any one thinks those years spent in Northern Iowa at that time, when very little tile drainage had been done, were easy ones they are mistaken. One month at Ames in the winter of 1902 with Professor Holden and his lectures on corn, soil and crop rotation, together with reading Wallace's Farmer, gave me training in soil fertility which has done me a world of good since coming to Washington.

In January, 1908, I arrived in Washington with three good horses and tools to work a ranch. After two months

of land seeking we purchased 15 acres of good orchard land on Nob Hill, two miles west of Yakima, paying \$975 an acre for it. The land has a decided slope to the north, and really looks like a hillside to a farmer used to the level prairies of Iowa. This has proved an advantage as it gives good drainage to the land except at the lower side,

and in 1909 set four acres more to apples. At the lower side I put out 100 Winter Nellis pears; and 76 more trees were put out in 1910. These pear trees were set in a block of 16 rows, 11 trees in a row. The rows are 20 feet and nine inches apart and 12 feet apart in the row. If anyone cares to figure this out I think they

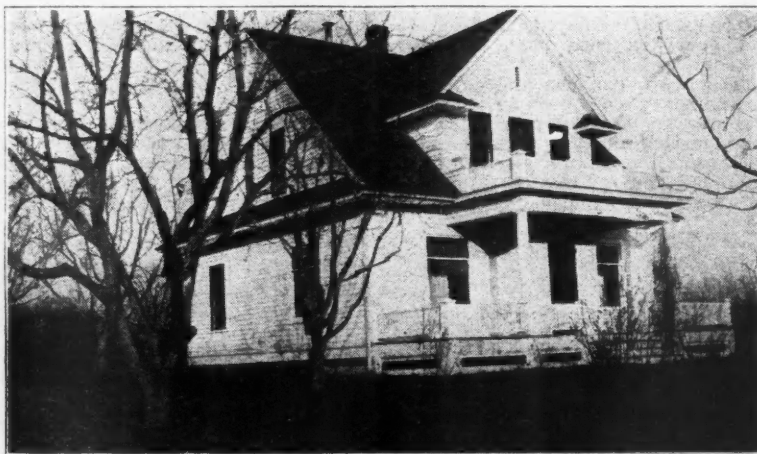
vested and \$1.05 net was received.

In 1916 we had very hard frosts after the fruit was as large as a marble and nearly all dropped off. This would not have happened if the trees had been set on the upper side of the place. Only 13 boxes of frost-marked pears were picked, and they sold for \$1.50 per box. In 1917, 224 boxes were picked and \$1.25 received for them.

In 1918 the trees had grown to a good size and they blossomed very full and set almost too heavy, so that the size was not very good. Thinning would have paid well, I believe. But we picked 626 boxes and sold them at \$1.50 per box for the large ones and \$1.00 for the small ones. If these had been consigned to New York they would have netted me a half more.

Last winter I gave the trees a severe topping back. Last spring the frost killed some of the blossoms so we thought our crop would be very light. However, the frost only gave them a good thinning. This last September we picked and packed 636 boxes of fine, large pears. From these we took one carload of 511 boxes of

(Continued on page 26)



The Cozy Home of the Flagg Family in the Orchard

where it has been found necessary to put in tile drainage at a depth of six to eight feet. The soil is a light brown volcanic ash and seems to be exactly suited to the growth of fruit trees.

With the addition of manure, clover and alfalfa and right application of the good water supply which this section enjoys, trees grow very fast and produce fine fruit. This tract had been set to trees the previous May, but had been poorly taken care of. The weeds and water grass were higher than the trees; I went to work and plowed up 10 acres, trees and all. The other five acres was apples with peach fillers. These peach trees have served me a good turn while growing the apple and pear trees.

In 1908 I set four acres to apple

will find 175 trees will cover an acre. As there are 176 trees I always plan to keep the fruit from one tree for home use and do not figure them in the returns.

In 1914 the trees produced a heavy crop of blossoms, but as the trees were young they did not set very full. We gave them two sprayings for the codling moth that summer and in October we picked and packed 71 boxes of very large pears. Against the advice of my neighbors I consigned them through a New York firm to London. After waiting until the next March I received \$1.90 per box, net, to me. This seemed like a great price. The small sizes brought the highest price on the English market. In 1915, 180 boxes were har-

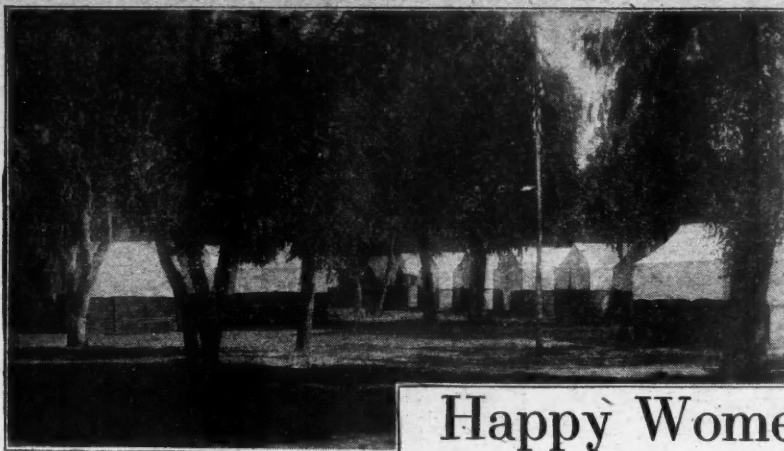


Mr. Flagg and His Children

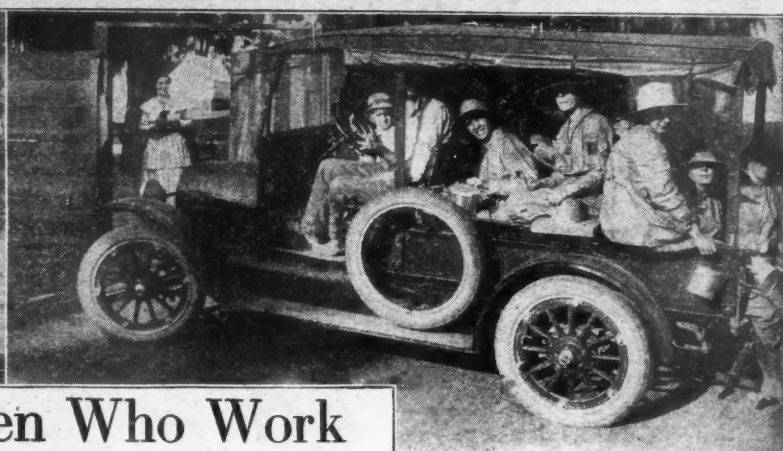


A Box of the Pears





Partial View of One of the Camps



A Gang of Pickers Starting to Work

## Happy Women Who Work "In the Fruit"

By Robert E. Jones, California

THE GREAT out-of-doors beckoned to woman during the war and she had a legitimate excuse to go—for every soul, even the feminine, has a yearning for the open. There was food to be harvested and the farm boys were under arms. So the Woman's Land Army came into being and was a big factor in carrying out America's "feed-the-world" program. This is history, of course, but what interests us now is the fact that out of this war, effort of woman has become a fixed habit which has a part in maintaining the country's food supply.

Everyone knows that farm labor is scarce. The dispatches tell daily of the difficulties farmers have in getting sufficient labor in competition against high-wage industries of the city. Out on the Pacific Coast where women, both during the war and since the Armistice, have taken to farm work with a will, the problem of fruit growers has been solved to a great extent. There are still many kinds of hard labor on the farm which white men will not see their women attempt, but the great food industry affords to woman a work which is not physically hard and which pays a good profit in wages and contentment.

### Women Make Good

In California it was thought the Woman's Land Army would disappear just as the great American soldier army disintegrated after the war, but such was not the case. Miss Alice Graydon Phillips, director of the Woman's Land Army Service at Lodi, San Joaquin county, the center of the largest table grape-growing district of the United States, tells me that the 1919 season was the most successful the Land Army ever has had. She believes it will continue as a permanent institution to help in the harvest and packing of tree fruits and grapes and will expand in numbers as the seasons pass on. Fruit growers who were skeptical of the ability of women to pick and pack fruit and grapes in competition with men have become convinced.

"Mr. Henry Bassford, a prominent fruit grower of California, told me at the close of the season, 'you have given me the best help I ever have had; next year I should like 50 of your women,'" said Miss Phillips in commenting upon the conversion of the employers.

The same is true generally of fruit growers and vineyardists, for I have been to some trouble to seek their opinions. I asked A. B. Humphrey, who has two large vineyards and packs fancy grapes for the New York City trade, what he thought of women as workers "in the fruit."

"I got the surprise of my life," he answered. "I came to scoff, but now am convinced. I know that women will average more boxes of grapes in a day than men and

they pick in better shape—are more careful. They have proved it to me. We have a man to move the heavy boxes filled with grapes, but the women and girls do most of the picking. They keep right at it and seem to enjoy the work. One day at Mayhews we had quite a time finding one of the girls. The captain of the crew lost her and spent a half hour looking for her. But finally this little one, with the curls hanging down her back, pushed a crate out from under an overhanging trellised vine. She had found a big cluster of grapes down under a canopy and crawled in after them. She picked three boxes before she came out and she did a thorough job, too."

W. S. Guilford, chief agriculturist of the Superior California Farm Lands Company, which operates a 500-acre fruit, peach and fig orchard, told me he would have had difficulty getting his crop harvested before the rains had it not been for the Woman's Land Army. Guilford built several dormitory cottages and a kitchen and dining hall especially for the Land Army to induce the women to work on the big farm. These structures are a part of a

permanent equipment and were erected in the hope that they will be the means of attracting women each season.

It really is surprising the variety of farm work a woman can do without overtaxing her strength. Ordinarily one thinks of farm labor as hard, physically, but in the fruit industry much of the labor requires dexterity and skill rather than heavy lifting. Women take to it quickly. Packing fruit is a natural work for women. The artistically finished crates of grapes and boxes of plums, peaches and pears one sees displayed in stores

are packed mainly by women. And now women have learned to mount the ladders and pick fruit from trees, too, or to clip luscious bunches of grapes from the vine.

"Everyone wondered how the women would stand the work," said Miss Phillips. "But it developed that they not only could pick fruit, but they could carry boxes and shift ladders without dislocating their spines or breaking their arms and legs or dying of heat stroke. Furthermore the women liked the work, enjoyed the community life of the camps, gained in weight and strength and went back to the



Upper: A Happy Picker. Lower: The Woman's Land Army Saved Many Crops From Loss.

cities greatly benefited by the change. "In addition to harvesting fruit, they cut squash, piled beans, husked corn and closed the year of 1919 with a record for efficiency second to none."

It is of interest, recalling our statement at the beginning that the lure of the open country is germinated in every soul, to note the type of women who were drawn by farm work—the vocations from which they came.

"They came from almost every walk in life," said Miss Phillips. "They included office workers, factory workers, trained nurses, hair dressers, milliners, dressmakers, tired mothers who wanted a change from housework and the care of children and also actresses, singers and professional dancers. The members of these latter professions were very useful when we gave our Saturday night shows, for recreation is just as important as welfare in running camp."

### Had Sanitary Camps

Without a doubt the efficient plan which was worked out for the housing of women in camps and the administration of these camps has had much to do with popularizing farm work among women. To many city girls a month or two in the country with congenial companions for work during the day and play in the evenings was like a vacation—restful after the rush and clamor of city life.

I visited several of these camps, some of them permanent ones and others partly permanent with room for tents to be pitched during the harvest season. They were planned and built for sanitation and the rough comfort of outdoor life. They were laid out under the general supervision of the California Commission of Immigration and Housing which has jurisdiction over all labor camps in the country as well as housing conditions in the city. This commission,

headed by an altruistic chief, Simon J. Lubin, has seen to it that the farm laborer has pleasant living conditions.

You shall hear of the camp and camp life in Miss Phillips' own words, for she has lived them during the last two harvest seasons.

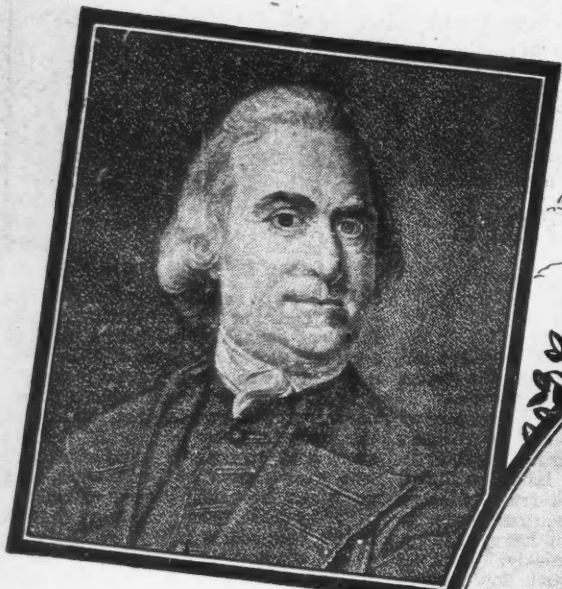
"Every camp has proper sanitation, showers, laundry facilities, screened kitchens and mess hall, tents with floors and the proper amount of cubic air space allotted for each occupant of a sleeping tent," she said. "The camp sanitation department of the Housing Commission makes an official inspection of each camp and I am glad to say that after each inspection I have received a report stating that the camp is in excellent sanitary condition."

"Of course it is because we have standardized camps that the employment of women in agriculture has been possible. Given standard housing, we have a foundation on which we can build standards of living, of efficiency and of morale. After a long day in

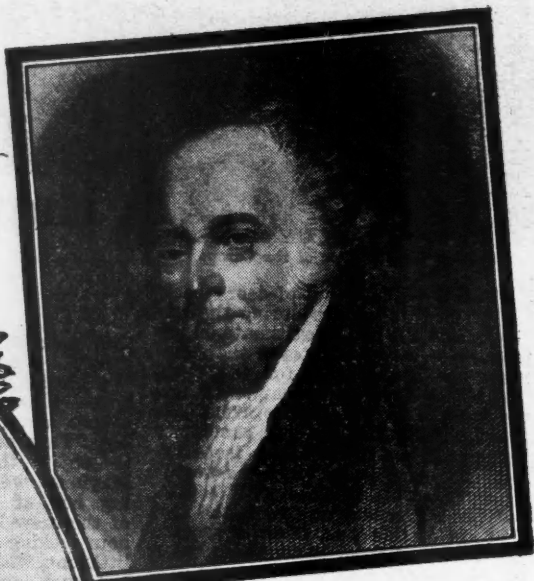
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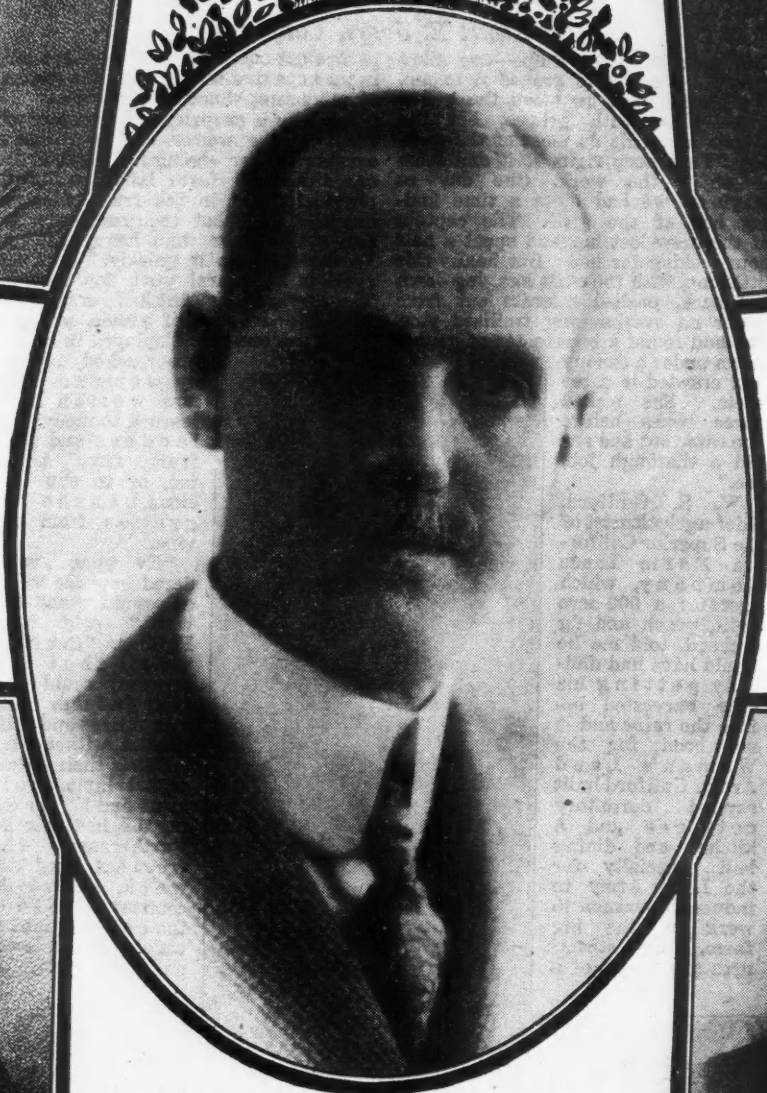
# Samuel Adams Candidate for Vice President 1920



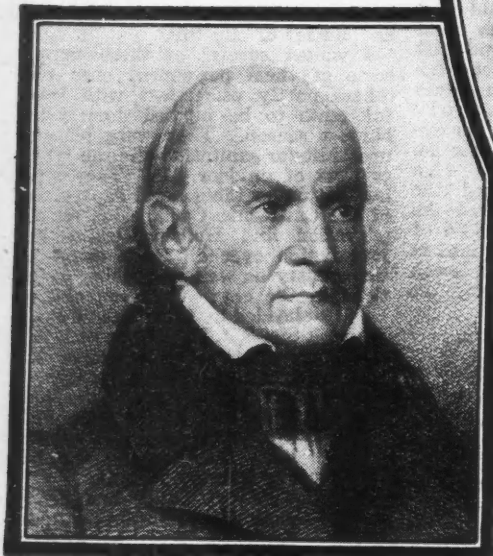
**Samuel Adams**  
PATRIOT AND STATESMAN



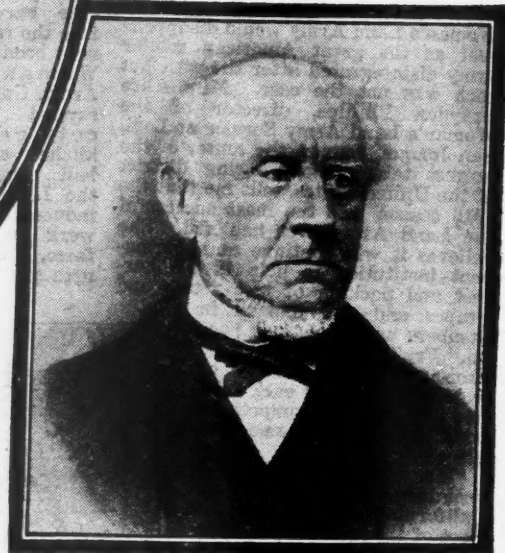
**John Adams**  
PRESIDENT OF THE UNITED STATES



**Samuel Adams**  
EDITOR OF AMERICAN FRUIT GROWER



**John Quincy Adams**  
PRESIDENT OF THE UNITED STATES



**Charles Francis Adams**  
STATESMAN AND AUTHOR

## Samuel Adams, Candidate for the Republican Nomination

Samuel Adams was born at Westfield, Mass., May 13, 1876, and in 1880 with his parents moved to Florida. Through the loss of his father, Mr. Adams at an early age was thrown on his own resources, but worked his way through college, and since then has devoted a large part of his time to the study of political and economic questions. His home for the past ten years has been at Greenwood, Va., where he has a large fruit farm. The office of his publication is Chicago.

Mr. Adams has had wide experience in business affairs and has been actively associated in the management of leading newspapers in the United States and Canada. In this work he has achieved success, and through his own ability has become a man of independent means. Mr. Adams is a forcible speaker and a man of action. His reputation as an editor is international and he is widely known in agricultural, business, industrial, civic, religious and charitable movements. He has the friendship of labor, of whom he is a large employer.



# With Our Editor

## The Empty Stomach

THE aftermath of war finds the food situation of the entire world just about as intense as during the strenuous days of the great conflict. Short working hours, high wages, bright lights and pleasures of the cities have attracted labor away from the farm and now are showing their effects in lowering the food supply as well as contributing very largely to the prevailing high cost of living. The human animal can no more live without eating than can the beast of the field. Three square meals a day are demanded by most people, and with the high wages that prevail there are few who go hungry of necessity.

But will this keep up? Farm labor is becoming scarcer each day. Farm work cannot be done without human hands to do certain parts of it. Mechanical equipment cannot operate itself no matter how much human labor it will replace, and because of the alarming shortage of farm labor the high cost of living is going higher. The war took many men away from farms, and the returned soldiers, contrary to expectations, have not gone back to farm work as freely as was once believed. The result is that farmers, for the want of enough help, are seeding cultivated fields to grass, and before another winter passes it seems quite certain the food situation will be even more intense than this country has ever experienced.

Greater production is needed in every line. More food is needed. More steel is needed. More railway cars are needed. More labor-saving machinery for farm work is needed. More production of every article of commerce is needed, and these can be obtained only through greater toil and greater efficiency on the part of the workers. All workers need food, but when food producers flock to the cities and engage in cleaning streets, operating lathes or laying bricks in order that they may enjoy high wages and city pleasures their food supply is certain to suffer. A fat pocketbook will not fill an empty stomach when there is no food to buy. Big wages and bright lights of bustling cities lose their attractiveness when the stomach is craving for bread, beans and bacon. The day of the empty stomach is coming, and hunger is one of the forces that will stem the tide toward the cities and return the boys to the old home down on the farm to produce food.

## Beware of Orchard Schemes

EVERY now and then there comes to light some great orchard development scheme which, according to the promoters, will give each investor a sure and certain income of so many thousand dollars a year for life. A tract of land in some distant state, ideal in its location, has been secured and is offered to the investors at so much per. Beautifully printed literature usually is furnished, in which the testimony of authorities is given, along with figures which are supposed to bolster up the proposition.

Such schemes usually are conceived in good spirit and the promoters apparently have a commendable desire to fulfill all of their promises. But it is rare that such

## FRUIT PICKERS' CAMPS

How to get and hold labor for fruit harvest is one of the hard problems that confronts all commercial fruit growers, and particularly those having large acreages. Not only is it a question of getting workers, but of keeping them after they are obtained. The story in this issue about the Woman's Land Army in California is about one plan that has been tried and found to be effective. The reason for its effectiveness is, in a considerable measure, due to the comfortable camps that have been provided for the workers, and their supervision to maintain the moral conditions, the comfort, health and entertainment of the workers.

More attention must be given to safeguarding the health, providing for the comfort and supplying suitable entertainment for workers on farms. The housing of farm employees has not had the attention which it deserves, and which it must have, particularly during harvest. Transient labor of the hobo variety has almost ceased to exist. It is necessary now to attract workers from towns and cities—men, women and children who have become accustomed to comfortable homes and who have easy access to amusements of many forms for their idle hours.

The plan used by the Woman's Land Army affords a suggestion for other parts of the country. Details will of course differ, according to the location and the class of workers it is desired to recruit. Every fruit growing locality can find a suggestion here, and it is not to be doubted, but that in many places, camps of large size can be established, with the workers transported to and from work by motor truck, in the same manner that children are conveyed back and forth to consolidated schools.

ventures ever turn out profitably except for the promoters. The "investor" in "units" gets the experience and is a wiser but poorer man for it.

This does not mean that fruit growing ventures that are launched and operated by large corporations for their own profit are not successful. But the land selling scheme, which has a "unit orchard" hitched to it, usually can be looked upon with suspicion. Theoretically the idea is sound. Nature's demands, however, are too exacting, and promoters too inclined to neglect the proper care of property from which they already have obtained their profit.

Beware of orchard schemes which claim to grow an orchard while you wait. Plant an orchard, but by all means do it yourself as that in the long run is surest of making a substantial, profitable orchard; good for yourself and a credit to the community in which it is located. There never was a better time for planting an orchard than now. Conditions never were more favorable for profit from a well-handled orchard, but look out for the schemes of promoters who want only your money.

## Your Sprayer Repairs

AT THIS time of year the usual stam-pede for sprayer repairs is just coming to a close, and how many disappointments there are. The repair season always comes at the last minute and brings with it a congestion in manufacturing establishments and repair stations. But this season has been the worst yet. In addition to an unprecedented demand for sprayers in every factory, there came the strike of expressmen, followed by the strike of railroad

switchmen and resulted in delay after delay right at the height of the repair season.

The experience of this year should be a warning to every orchard man not to be caught in the same way again. There is no more important operation in the orchard or grove than that of spraying. It is the one operation that makes money, and no matter what the crop, the spraying must be done within a relatively short period if best results are to be expected. When the sprayer is not in readiness, the delay that is occasioned in such a year as this becomes very expensive. It is safe to say that many thousands of dollars will be lost this year from the work of insects and diseases because the repairs for the sprayer did not arrive in time. But after all, perhaps, it is only human nature to put off ordering repairs until the last minute, just as it is to procrastinate in many other things. It is easier to let the sprayer stand with the remains of the last filling of spray solution than it is to clean it thoroughly when the spraying is all done. A sprayer, a tractor, a motor truck or any other machine gives its best service when it is given good care and when the necessary repairs are ordered on the spot instead of at the last minute.

## The Wine Grape Growers

CALIFORNIA wine grape growers were very much disturbed over the status of their business as a result of the enactment of the eighteenth amendment and for very good reasons. But from the cheerful manner in which they looked at their predicament, and the energy which they displayed in seeking new outlets for wine grapes, the present indications are that the coming of prohibition has been a blessing in disguise to them. During the past four years we have observed that many of the things which "couldn't be done," have been done on a very large scale. Wine grape growers have been forced to seek new markets and new uses for grapes with the result their returns for the past season advanced from about 20 to over 80 dollars a ton.

The grape, although the oldest of cultivated fruits has been put to fewer uses than any other fruit, at least in a commercial way. Until grape juice was introduced and popularized by extensive advertising, wine and raisins constituted the principal forms in which grapes were marketed, except as fresh fruit. But the coming of a scientific knowledge of the process of canning on a commercial scale, the vast improvement in marketing methods as applied to all food products, and the rapidly changing custom of the consumer to buy the finished product instead of making it himself, is enlarging the market for many so-called by-products.

Food delicacies, which at present are unknown commercially are certain to be developed from fruits which formerly went only to the wineries. Science and necessity are certain to discover them, and certainly no fruit is worthy of more extensive use than the grape. Although the wine grape growers may have considered themselves in a rather strained situation, we do not doubt but that their American initiative in doing the impossible has brought them out of the hole with flying colors.



# Orchard Problems and Their Solution

## DEWBERRY CANE BORER

Q.—I am troubled with the red-necked cane borer in my dewberries. Can you give me any remedy for them?—L. H. H., Ohio.

A.—The red-necked cane borer causes the shoots to wilt toward the end, the small grub later boring through the cane. The remedies suggested are as follows: Destroy all the infested canes as soon as you discover the insects. If you wait until late in the summer it would be necessary to remove the entire cane to get the grub which has worked down from the top. All wild or neglected berry bushes nearby should be destroyed as they serve as a breeding place for the insects.

## SWEET CHERRIES

Q.—I have read with interest about the Bing cherry and would inquire if they would flourish in Massachusetts and New Jersey. Would like to be advised of whom they could be obtained. How old should the trees be when set out and the best time of year to do this?—F. L. T., Massachusetts.

A.—The Bing cherry is a variety that has been grown very extensively in the northwestern states. It has also been grown in other parts of the country, but is not as successful in the east as some of the other varieties. You can get Bing cherries from most any of the leading nurserymen and can plant in fall or spring with success. I personally prefer the one-year cherry tree, particularly in the case of the sweet cherry. I would advise you to plant of the following varieties of sweet cherry: Black Tartarian, Windsor and Gov. Wood. Napoleon is another variety that is found to a large extent in the northwest and I have seen some splendid crops of this variety in the east. The Gold cherry is a hardy yellow variety that originated in Nebraska, and the originator stated that it has never missed a crop since it began bearing. I have them fruiting in my own orchard and they have borne when other sweet cherries failed. In color they are a bright yellow with very firm flesh.

## DEPTH OF PLANTING

Q.—I have a number of quince trees about three years old which were planted entirely too shallow, and I am afraid they will die unless something can be done to cover roots more thoroughly. What treatment would you suggest?—K. M. W., Pennsylvania.

A.—From your description, I cannot tell how deeply you have planted these trees. However, if you believe they are planted entirely too shallow, about the only thing you can do is to plow towards them or rake the dirt up higher around the tree with a hoe. By plowing in such a way that the dirt can gradually be worked up around the tree, you can make the tree a number of inches deeper in the ground. The subject of planting is one on which there has been a great deal said, but after seeing results of many different methods of planting I have come to the conclusion that it is just as easy to plant a tree too deep in the ground as it is to put it too shallow. I prefer putting a tree from one to two inches deeper than it stood in the nursery row. By looking at the bottom of the tree you can easily determine where the ground level came on the tree and then put it deep enough in the ground so that the ground level after it settles will be an inch or two above the height it stood in the nursery row. Some people plant their trees very deep and it has been asserted by some investigators that this extremely deep planting is sometimes the cause of root rot in trees, although I do not know that this point has ever been definitely proven. In planting, also bear in mind that the ground will settle considerably after a few heavy rains, but you should mound the dirt up slightly to allow for this settling.

## By Paul C. Stark, Associate Editor

Ask Questions. No matter how big or how little your orchard, you are continually meeting up with problems that you would like to get information or advice about. Let us help you solve your orchard problems, no matter what state you live in, what fruit you grow or the size of your planting. Address Paul C. Stark, AMERICAN FRUIT GROWER, Chicago, Ill.



A Spraying Outfit of this Style Should Be in Every Farm Orchard

## PASTE OR POWDER ARSENATE OF LEAD

Q.—Is there any difference in the arsenate of lead powder or paste as to its value for spraying peaches? I have some arsenate of lead paste left over from last year which never has been frozen but is in a very dry form. Do you think it would do to use this year?—G. O. P., Illinois.

A.—The arsenate of lead paste or powder are equally efficient in spraying fruit trees for chewing insects. Most spray formulas are based on the arsenate of lead paste. If you use the powder, bear in mind that it is just twice as strong as the paste, owing to all the water being removed from the powder, therefore, use just one-half as much powder as you would use of the paste.

In regard to your paste arsenate of lead which has dried out, it would be advisable to work this up into a paste by adding a little water at a time, stirring all the time until it gets quite thin. Then it can be poured into the spray tank and will mix much more easily. In spraying peaches with arsenate of lead, it is advisable to use it in connection with self-boiled lime-sulphur, or if you do not care to use the self-boiled lime-sulphur, add three or four pounds of fresh stone lime to every 50 gallons of your spray mixture. This lime is added to neutralize the burning tendency that the arsenate of lead might have on the tender peach foliage.

## LIFE HISTORY OF PEACH TREE BORER

Q.—Would like information concerning the peach-tree grub. When does miller lay the eggs? How long does it take them to hatch? How does the worm get to bottom of tree? Does it crawl down the tree or drop on the ground, then to the tree? How long would a grub live in tree if allowed?—G. L. W., New Jersey.

A.—The peach tree borer lays its eggs in May, June or July. There is only one generation in a year. The eggs hatch about 10 days after they are laid and the young borers try to enter the bark of the tree through the cracks in the bark.

One remedy for controlling the borers is to mound up the soil early

in the spring before the time for laying the eggs occurs. This forces the moth to lay the eggs high up on the trunk and the young borers can be more easily found in this way. Furthermore, it tends to prevent the entrance of borers. If the dirt is mounded up around the trees early in the season, it should be leveled down in the fall so that it will be easier to find the little borers. The regular life history of a borer covers one year, the moth appearing the following summer after the egg is laid.

In cutting the borers out of a tree, you will generally find borers varying greatly in size. There are various methods recommended for controlling borers, but it is a good plan, no matter what remedies are used, to watch your trees carefully and if there is any indication of borers, cut them out with a sharp knife. If you mound the dirt around the base of your trees, it should be to a height of one to one and a half feet and the mounding should be done not later than May or the latter part of April would be better. You should "worm" peach trees twice a year, once in the late spring and once in the fall.

## ASHES FROM SOFT AND HARD WOODS

Q.—Please advise about what value wood ashes of white pine, sugar pine and fir contain as a fertilizer. How do they compare with hardwood ashes. I have been using them to put around some trees and berry bushes this spring believing that they would prove beneficial. Is there danger in putting too much around small fruits? I applied about 300 pounds over about three square rods as a top dressing on red raspberries. What is the best remedy for rose scale on blackberry and red raspberry bushes? The wild vines are infested with it in my surroundings although I have tried to destroy all the wild plants.—O. G. S., California.

A.—The softwoods such as the pine, etc., contain a great deal less potash than the hardwoods and of course would be of much less value as a fertilizer than the hardwoods. You would of course, get some benefit, but you would have to apply a great deal more of this material than you would

of the hardwood ashes. The ashes from the oak and ash run a very heavy percentage of potash and the lime in the ashes is also of benefit to the soil. The amount of ashes that you applied on such a small space was very heavy, but as they were the softwood ashes, and thus low in potash, I don't think it will do any particular harm. In regard to rose scale, the following is the method advised for controlling it. Spray with commercial lime-sulphur during the dormant season using one gallon lime-sulphur to eight gallons water. Whale oil soap, one pound to one gallon of water is also effective. Scalicide which is a miscible oil, gives excellent results in controlling scale insects. In a berry plantation such as yours it is a good idea to cut off and burn all the badly-infested canes right after the fruit is harvested or during the winter.

## THE FUTURE OF APPLE ORCHARDING

Q.—I would like to get your opinion through your columns as to the chances of my success in planting a Keiffer pear orchard of about four or five hundred trees. I have quite a large orchard of young apple trees, and about 3½ acres of old apple orchard, but am thinking possibly that by the time my young trees come into bearing the apple business may be overdone.—W. R. G., Ohio.

A.—A Keiffer pear orchard should do well in your section. I have known a great many Keiffer orchards and whenever they have been given the right kind of attention they have usually been very profitable. Keiffer, as you know, is a heavy and early bearer. It is of the Oriental type, but not of high quality. However, I have wrapped Keiffer in paper late in the fall and put them away in a dark place until thoroughly ripe and the quality was far better than one would suppose. Also, it can be canned, and if properly cooked will make excellent fruit during the winter. Keiffer can be handled as roughly as any commercial variety. In other words, the fruit is not as tender as some other pears. Of course, I do not recommend rough handling of fruit, but sometimes fruit does get rough handling and it is a good character for a variety to have.

I have noted, with interest, your comments on the apple industry, and its future. You are right in that there is a big interest in apple planting and considerable planting of commercial orchards taking place. However, the nursery trees are so scarce that many orchards that would be planted if they could get the trees, will go unplanted. Every few years there is considerable talk of overproduction but in spite of all this talk of overproduction, the fact remains that apples keep getting higher and higher and fruit growers who have good orchards of the right varieties are making splendid profits.

In the past 10 years there have been comparatively little planting of commercial orchards—nothing like enough to balance the orchards that have been dying out due to neglect. Other factors affecting the apple industry are the great increase in population of the United States in the past 15 years. During the war period the government in all of its food conservation campaigns featured the food value of fruit and this and other educational work has certainly increased the consumption of fruit by the American people.

Furthermore, there are much bigger opportunities for future distribution of fruit crops. Whenever there has been any trouble with fruit crops in the past, in almost every case it has been due to lack of proper distribution, some markets being flooded while others would not have enough. The government has bureaus whose work is to control this condition and correct it and they have done splendid work. The average annual apple crop of the past eight or 10 years has been only about 40 per cent of the 1896 crop.





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*"We haul local growers' fruits and delicate vegetables, such as lettuce, on pneumatics—Goodyear Cord Tires—because they are marketed in better condition this way and buyers give first choice to produce so protected. Our Goodyear Cord Tires run everywhere in cultivated fields and in a sandy orchard and deliver mileages to 15,000."—C. C. McIntosh, of McIntosh & Andru, Truckmen, Palmetto, Florida*

AS statements like this make apparent, more and more farmers are preventing the bruising of fruit, mutilation of delicate vegetables and much shrinkage in livestock by hauling on Goodyear Cord Tires.

In this way they reverse the situation that existed when solid-tired trucks or wagons were used with a resulting loss in crops, stock weight and general income due to slow, jarring transport.

On the resilient Goodyear Cord Tires a farm truck delivers smoothly and quickly, safeguarding the original condition of the load so as to secure the best prices for it.

The able pneumatics thus become important factors in the marketing of perishable produce and carefully fattened animals, as well as in practically all the work of raising and handling on and off the farm.

The excellent and often unusual mileages obtained from these tires attest the toughness of Goodyear Cord construction developed with that extraordinary manufacturing carefulness which protects our good name.

Farmers' records, detailing how pneumatics assist crop moving, motorization, chores and other activities, can be obtained by mail from The Goodyear Tire & Rubber Company, Akron, Ohio.

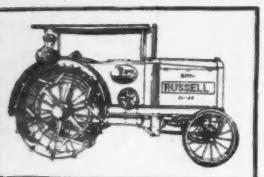
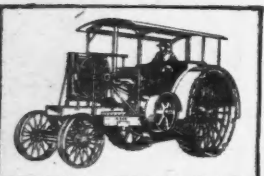
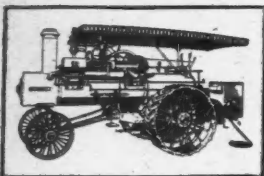
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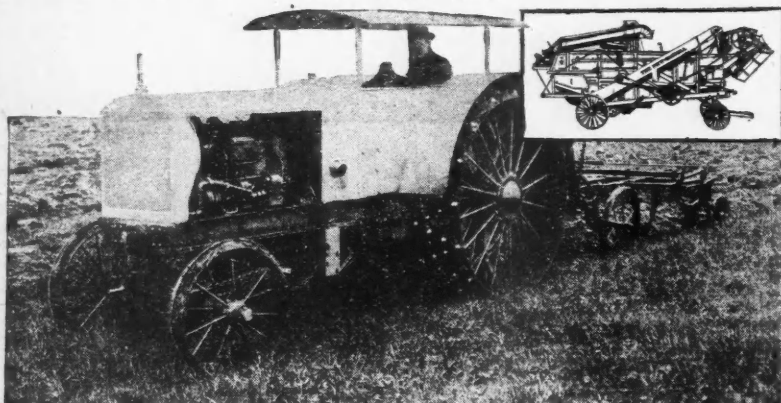
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1842-1920



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Firstly to build with only true and tried features, and complete all our own experimenting before letting our machines get on the market.

Secondly to use only the best of materials and standardized units; to put in hand-made quality of workmanship; and to build for hard, long service, not how many machines but how good.

As a result, Russell stands for Reliability in kerosene tractors, just as it has always stood for Reliability in engines and threshers all over the world.

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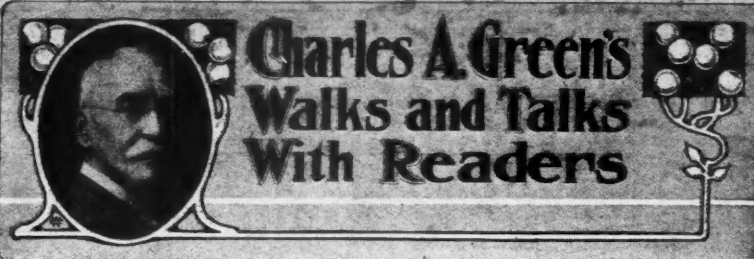
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There is a Russell tractor and a Russell thresher for every size farm. Kerosene tractors are in four sizes: 12-24, 15-30 and 20-35, and the Giant 30-60. Steam traction engines are made in five sizes. Threshers in six sizes, from 20x34 for individual farm use, to the big 36x60—all alike in general design and exclusive features.

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### MAINTENANCE OF FERTILITY

On visiting the home of my childhood I made a study of the fertility of the homestead farm as compared with its condition 40 and 50 years ago. Naturally I expected that through constant cultivation throughout all these years there would be a noticeable decline in fertility and in the production of crops. I was surprised to learn that this farm apparently is as productive, or nearly as productive, as it was 50 years ago.

This is a gravelly farm. The present owner tells me that there is plenty of fertility in the land and that all it needs to produce a good crop of corn and potatoes is plenty of moisture from the falling rains. In fitting a field for wheat he conceded that it would be profitable to apply 150 pounds of commercial fertilizer per acre. This might indicate that there is a slight falling off in the productivity of this field. The farm has been leased a portion of the last 50 or 60 years and during every year has been cropped severely to corn, wheat, oats, buckwheat, beans and other similar farm crops. The fact that there still remains in this soil a vast amount of fertility is encouraging. I am told that the farms of England that have been cultivated for over 100 years are still as productive as ever, but on these England farms more fertility has been applied than in this country.

### The Foolish Hen

Looking out of the window of my warm home one cold winter's night when a blizzard was raging, I saw a hen roosting upon the grape trellis fully exposed to zero weather, while all of her companions were happy under a warm cover not far away. Why was the hen such a fool? My explanation is that during the summer months the hen had formed a habit of sleeping in this particular spot. She had not the strength of mind or character to break the habit she had formed. Here we have an illustration of the force of habit, which is even stronger in man than in the lower animals. I have seen many men and women who have formed habits as vicious or foolish as those of the hen perched upon the grapevine. One bad habit is in being dilatory, unduly slow, the result being that the individual is always behind time with his work. Another habit equally bad is to do everything with a rush, thus rapidly and unwisely using up vitality and endangering life and limb. Then there are the other foolish habits of mankind almost too numerous to mention, among which are revengefulness, prevarication, selfishness, drinking, gluttony.

### A Little More Cider

We have said good-bye to alcohol. Now the question is what are we to drink? Drinking is healthful. Those who drink the most water live the longest, but I prefer cider, which is even more healthful than water as a drink. This year the price of grapevines as sent out by the nurseries has largely increased owing to the marvelous demand for grapevines, which has been traced to the absence of grape wine. It seems evident that many families are preparing to make their own wine. Unfermented grape juice is being used in larger quantities each year and is a healthful drink. Gingerale, so-called, is popular, but I am told that there is little if any ginger in the ordinary ginger ale.

I look forward with confidence to the

immense demand for apples for the manufacture of a high grade of cider. Most people have never seen the best cider, which is equal to the finest wine and is equally as healthful or more so than wine. This cider may be charged with carbonic acid gas or may be kept as canned fruit is kept in bottles. The French people beat us in making high-grade cider. The waste of our evaporating houses, that is the cores and peelings, are sent to France and made into an attractive drink often sold as wine.

Considering the attractiveness of high-grade cider it is a wonder to me that some one has not stepped in the gap to furnish such an article at a profitable price to the manufacturer. With prohibition prevailing I have no doubt we shall see an abundance of the finest cider, as tempting as the best wine, not intoxicating, healthful and cheering.

Such a cider has been made in this country, but the price was so high, higher than the price of good wine, that many people could not afford to use it.

### Berry Planting on the Pacific Coast

The "California Cultivator" tells about the planting of 40 acres of berries on one farm in Los Angeles county, Cal., for special restaurant use. They are planting five acres of blackberries, five acres of raspberries and six of strawberries. Two and one-half acres are to be devoted to Loganberries, a remarkable fruit that cannot be grown in the eastern or middle states, not being hardy. A scarcity of plants is reported. Blackberries were planted 10 feet apart so as to give opportunity for irrigation.

Half of the tract will be planted to Cuthbert and half to St. Regis ever-bearing red raspberries. I am surprised at so large a planting of St. Regis, since I have never known an ever-bearing raspberry to prove profitable as a market variety, but it seems to be more highly regarded in California where it is said to bear fruit very soon after planting. One-half acre of the tract is to be devoted to blackcap raspberries in rows six feet apart, plants three feet apart in the row, which is the same distance apart as planted in the eastern states.

### Life On the Farm

I appreciate the delights accruing from having been brought up on the farm. I can review the incidents of farm life in childhood now in my advanced age as vividly as though they occurred but yesterday.

Consider for a moment how much this adds to the pleasures of living throughout the past years. When the snowflakes are falling in the city, I can recall the sunny summer days of childhood on the farm, bring to life the old playmates and schoolmates of childhood and how we roved through the orchards and fruit gardens, and through the fields and wooded tracts.

How vividly I recall the many miles I tramped for wild berries, such as the blackcaps, the red raspberry and the blackberry, also the huckleberry. In those early days elderberries were too plentiful to be noticed, but at present they are eagerly picked up, and there may come a time when elderberries will become a cultivated crop.

The canneries in the vicinity of Sacramento, Calif., expect to turn out between \$14,000,000 and \$15,000,000 in canned goods this year, according to present estimates. They will pay approximately \$6,500,000 to growers and labor this year.

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It has been our constant endeavor, from the inception of the Utilitor, to insure a definite, unfailing performance standard for this machine. This has necessitated the closest study of soil conditions in order to perfect the *right* rims and *hitches* for the Utilitor.

It has been obvious from the start, that if the Utilitor could plow it would do any work demanded of it within the range of its usefulness. Very naturally, our work has been centered around the Utilitor's plowing ability.

We know the Utilitor does plow. We know that in soil typical of fruit orchards

the Utilitor has power enough to, and is equipped with proper rims to cultivate satisfactorily.

We could point out a great many other reasons why fruit raisers need the Utilitor, but we are content to let you form your own opinion of this machine after you have seen it plow.

If you will simply notify the Utilitor dealer in your vicinity that you want a plowing demonstration he will give it gladly. And really, for the sake of better and more economical production you owe it to yourself to thoroughly familiarize yourself with this latest power farming development.



*This little booklet is full of interesting information relative to the economic value of the Utilitor. We have a copy for you if you will make your request known.*

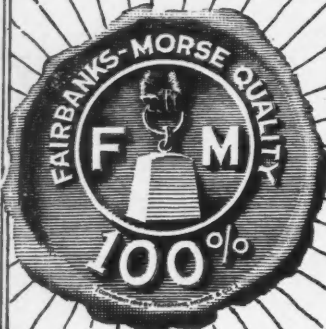
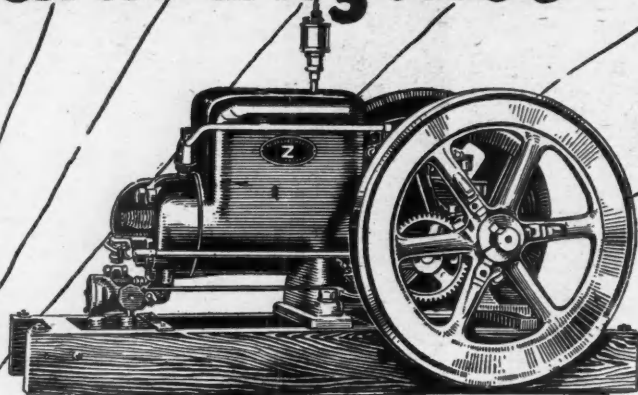
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# Fairbanks-Morse "Z" Farm Engines



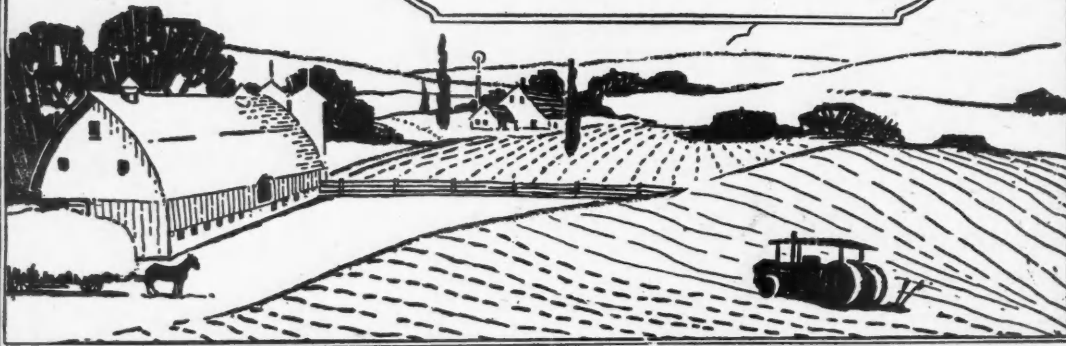
THE verdict of over a quarter-million farmer users is the guarantee we ask you to consider in the "Z" Farm Engine. No other engine has been bought so widely and has found so many friends in so short a time.

The fact that keen farmers bought over \$15,000,000 worth of "Z" Engines is not what we would have you take as your yardstick in measuring engine value. Gauge the "Z" by what the purchasers of this vast quantity of engines say of it. That is the truest guide.

Users praise it for its power—its sturdy, enduring delivery of work-service. They have found it to be well-built, well-designed to do its job better than others, and free from engine troubles that are most common. Equipped with Bosch Magneto. Backed by Fairbanks-Morse dealer-service.

Prices: 1½ H. P., \$75.00—3 H. P., \$125.00—6 H. P., \$200.00—All F. O. B. Factory.

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any one market to cause the price to drop below a profit. Quite often cars are re-routed several times before they reach their destination. This happens when, after the car is routed to a certain city, the exchange managers learn that a better price can be secured at some other place. Cars are re-iced several times on these long trips to keep the fruit from spoiling. Too much praise cannot be given the Georgia Fruit Exchange for the advantages it has brought to our peach growers.

## Canning Factories Important

There is still another important source whereby many growers sell their fruit at a good profit. This is the canning factory. The canning industry has rapidly developed in the Fort Valley section. This town alone has six large factories which can peaches exclusively. Many millions of cans are put up every summer.

These canneries use a great quantity of peaches, which, when the business was in its infancy, was mostly supplied from the culls of the large packing houses. But since that time the industry has assumed such large proportions that it takes whole orchards of fruit to furnish the requisite supply. The owners of the factories contract with a number of growers for their entire crop. Ordinarily, peaches sold to a cannery at from 80c to \$1 per bushel, yield a good profit. Various trades are made between the growers and owners of these canneries to suit the particular case in hand.

However, quite a lot of peaches consumed thus are not contracted for. Each canning proprietor has a certain flexible price per bushel for fruit hauled into his place of business. The growers bring in their peaches and sell a load at a time and many small growers dispose of their entire crop this way.

There are two well-defined peach sections in Georgia, namely, the central and northern. Their respective climatic conditions are such that all varieties ripen from two to three weeks earlier in the central part of the state than in the northern area. This gives those growers in the former section an advantage over those in the latter, because their fruit reaches market first. The market demands a certain variety for only a short time, in consequence of which the North Georgia grower has to dispose of his fruit when it is on a decline. This is especially true of the early varieties, but the Elberta seems to hold its own anywhere.

Mr. J. E. List, one of the largest and most successful North Georgia grower, writes: "The Elberta variety has always been my mainstay with one considerable planting of Carman which has been pulled up. We cannot compete with South Georgia on early varieties and all the large markets get their supply nearer by after the Elberta season with us or August 15th on average. Also the late varieties are not very reliable so far as tested although I have a considerable acreage planted to the late varieties for testing local shipments and to extend the season as far as possible to give employment to my regular help." Mr. List referred to South Georgia, but in reality the section he had in mind is Middle Georgia.

I do not understand why this industry has not been developed in the southern part of the state. It is not because the trees will not grow successfully as very fine peaches are grown in the gardens and small-home orchards every year. I believe that if some experienced grower with the requisite means were to go down there and make a large planting, he would be able to prove that there is a great future for the peach industry in South Georgia. A leader is all that is necessary; many would be quick to follow. The soil is suitable and the climate is such that each variety could be brought into bearing from 10 to 15 days earlier than in the central section. A golden harvest awaits those who will make the beginning.

## Our Dollar Saving Coupon

The annual price of American Fruit Grower is \$1.00 a year. Why not save one dollar by sending us a three-year subscription for which we will accept \$2.00, or you may send us two new yearly subscriptions at \$1.00 each and get your own subscription one year FREE. USE THIS COUPON and save a dollar.

AMERICAN FRUIT GROWER,  
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Enclosed find \$\_\_\_\_\_ for which enter the following subscriptions to American Fruit Grower for the term of \_\_\_\_\_ year.

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Town \_\_\_\_\_ State \_\_\_\_\_

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Town \_\_\_\_\_ State \_\_\_\_\_

## Marketing Peaches

(Continued from page 6)

derived from membership in the Georgia Fruit Exchange, ship through that organization.

When the majority of the growers ship through the exchange the independent shipper is also benefited. The skillful distribution of the exchange prevents gluts in the markets and thereby protects the independent as well as its own members. Only a small discount is charged for the services of this organization. It has the hearty co-operation of practically every grower in the Fort Valley section.

When the exchange takes charge of a car of fruit, the owner does not have to worry about it further. It has special expert representatives in all the important markets who sell the fruit to the very best advantage. The cars are routed to the best markets, special care being taken to prevent a sufficiently large number being sent to



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Cord Tire*



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## Feeding-time and the Federal

Feeding—in the feed lot, stables or shipping pens—is just another one of the big farm tasks that can be made little with a Federal on the job.

It's the simplest kind of a task to load the feed on your truck, fill the feed troughs, and the job is easily, quickly and economically accomplished.

But this is only one example of the great utility of a Federal on the Farm. After you have used a Federal on almost every conceivable job that is found on your farm, you will wonder how you ever got along without it.

You will be pleased, too, with its wonderful dependability, its real ability to do all kinds of work under all conditions and its comparative freedom from chronic ailments which you have probably thought must belong to a motor truck.

Ask the Federal dealer nearest you to assist you in selecting the type and capacity that will most nearly fill your requirements.

This tag—the sign of the "Tenth Year Federal"—is attached to every Federal purchased this year. It represents something real and tangible in motor



truck values—the value of a truck that has back of it more than ten years of success in every field of truck transportation.

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Another

# FEDERAL

One to Five Ton Capacities



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Easy to start—easy to operate. Fewer parts to

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Reliable, even power always at any minute. Each size 20% to

50% surplus power. Use cheapest fuel without making any

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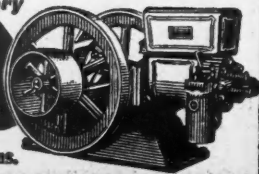
More sizes to choose from—2, 3, 4, 5, 6, 7, 8, 9, 10, 12, 16 and 20

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Let us ship you an engine to earn its own cost while you pay for it. I make the price low—cash or easy terms. Thousands of shopmen and farmers in every section of America prefer the OTTAWA Engine because it delivers lowest cost power.

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Easy to understand engines after you read it. Gives present prices and 10-year guarantee. Write today.

OTTAWA MFG. CO., 1174 King St., Ottawa, Kans.

## Taming the Blueberry

By Elizabeth C. White, New Jersey

THE accounts of blueberry culture near Lake Ontario by Myron T. Bly and in Florida by M. A. Sapp, recently published in the AMERICAN FRUIT GROWER, interested me greatly—especially as I, also, have brought under cultivation *Vaccinium corymbosum*, which is commonly known as the swamp huckleberry or high bush blueberry.

Joseph J. White, Inc., New Jersey, now has 20 acres of blueberries under cultivation. Some of these acres are set entirely with plants propagated from wild bushes selected for their

## American Fruit Grower

unusually fine fruit. Others, comprising the government blueberry trial grounds, are set with seedlings from the U. S. Department of Agriculture.

Our first experiments in cultivating blueberries started in 1911, but regular planting was not begun till 1913, since when annual additions have been made. The largest, 4½ acres, was that of 1919. The planting of September, 1913, comprised about an acre, the crops from which afford an illustration of the possible commercial value of cultivated blueberries. When set in the field these plants were as large as they could be grown in two-inch pots. In 1915, the second summer in the field, they yielded enough berries for the home table. Oh, but they were good!

The average yield per bush and the actual price received for the past four years is shown in the following table—also the yield and gross receipts per acre with plants spaced four feet by eight feet.

Year	Average Bush	Yield Per Acre	Price Per Bu. f. o. b.	Gross Receipts Per Acre
1916	344 qts. 16 bu.		\$ 8.00	\$128.00
1917	768 qts. 33 bu.		8.00	264.00
1918	544 qts. 23 bu.		9.60	220.00
1919	932 qts. 39½ bu.		10.00	390.50

These plants have not nearly reached their maximum size or productive capacity. Furthermore, the possibility of increasing the yield per acre and improving the size and quality of the fruit by propagating from the best plants is great.

The promise is such that we look forward to having at least 100 acres under cultivation and producing thousands of bushels of blueberries annually. We further anticipate that these berries will be of such quality that those among them less than half an inch in diameter will be rare.

This may seem akin to counting chickens before they are hatched, but at least we have the eggs and some have been hatched. From the many thousands of blueberry plants in our fields seven have been selected as the most desirable. Five of these plants are wild and two are hybrids produced by the Department of Agriculture. They bear berries of delicious flavor, most of which are over one-half inch in diameter, and an occasional one as large as three-quarters of an inch. Cuttings from these plants are our eggs. From the cuttings, several thousand little plants have been started which are destined to be planted in our fields next September. These are the first chickens hatched, and I have every confidence they will grow and prosper.

The maintenance in the soil of a degree of acidity favorable to the beneficial fungus associated with the roots of the blueberry is essential to success in its culture. Equally essential to success in blueberry culture is a moderate but unfailing supply of moisture and good aeration of the soil.

Our blueberry fields lie a few feet below the level of a reservoir, the water of which is brown and acid with the leachings of the dead leaves and peaty soil of swamps farther up stream. This water percolates through the sandy soil above the hardpan which underlies the fields at a depth of about two feet. The necessary soil aeration is insured by tile drains and clean culture. These fields are new land which, when they were plowed, had from two to six inches of peaty soil turned under.

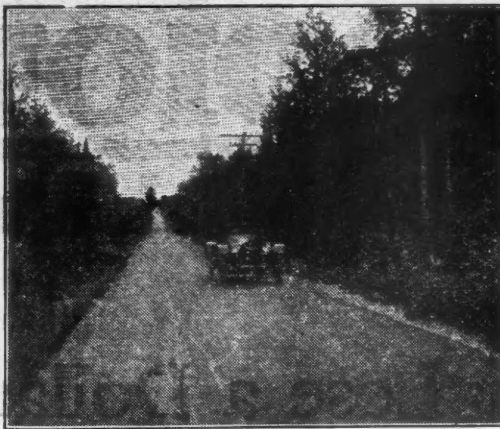
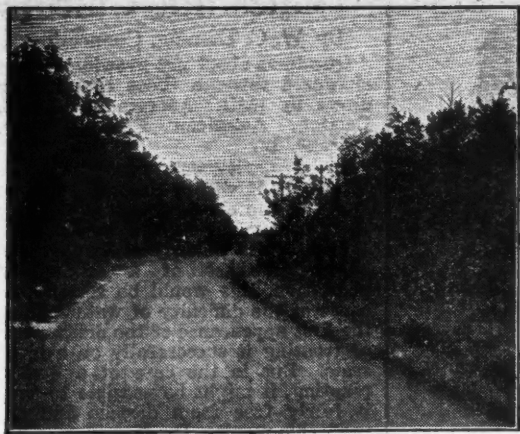
Such a peaty soil and controlled supply of swamp water are a great asset in cultivating blueberries and may prove a necessary factor of commercial success.

However, blueberries for home use can be grown in most gardens if care is taken to fit the soil to their needs. The first essential is to make sure that the chosen site is well drained; the second to provide a mixture of sand and peat or partially decayed leaves for the plants to grow in; the third to see that water can be given during hot dry weather.

In gardens with light sandy soil the addition of partially decayed leaves will probably be sufficient. A layer a

(Continued on page 24)





Three different sections of Marquette-Negaunee Road, Marquette County, Mich. These roads were water-bound macadam, surface-treated with "Tarvia-B" in 1917 and 1918. This is the main line of travel between the busy mining cities of Ishpeming and Negaunee, Mich. A traffic census revealed the passage over this rural road of 1080 vehicles per day, the majority of which were automobiles.

## You can have Roads like these—

IF there are, in your community, plain macadam roads that are beginning to wear in spots, or to "ravel," you certainly ought to know about this Marquette-Negaunee Road—

It will show you how, at small expense, you can save your roads and make them smooth, dustless and durable.

Like many roads built in this country a few years ago, this Marquette-Negaunee road was plain water-bound macadam construction. But after it had been in use for a while the road authorities of Marquette County discovered that plain macadam would not stand up under the torture of modern traffic.

The road authorities had to find some way to save their road, which is an important main high-

way carrying heavy traffic. They turned to Tarvia as the surest and most economical solution to the problem.

They treated the road surface with "Tarvia-B" in 1917. In some places where the wear had been particularly severe a second treatment was applied in the summer of 1918.

Today, instead of a ruined macadam road which would soon have to be rebuilt at great expense, Marquette County has one of the finest stretches of road in all Michigan, as the photographs show.

And the road can be kept in the same wonderful condition at small expense by occasional Tarvia treatments.

Advice on your own road problem can be had from the nearest Barrett office.

### Special Service Department

In order to bring the facts before taxpayers as well as road authorities, The Barrett Company has organized a Special Service Department, which keeps up to the minute on all road problems.

If you will write to the nearest office regarding road conditions or problems in your vicinity the matter will have the prompt attention of experienced engineers. This service is free for the asking. If you want better roads and lower taxes, this Department can greatly assist you.

# Tarvia

Preserves Roads—Prevents Dust

THE BARRETT COMPANY, Limited;

New York  
Cincinnati  
Minneapolis  
Atlanta  
Lebanon

Chicago  
Pittsburgh  
Dallas  
Duluth  
Youngstown  
Montreal

Philadelphia  
Detroit  
Nashville  
Salt Lake City  
Milwaukee  
Toronto

The Barrett Company  
Toledo Columbus Richmond Latrobe Bethlehem  
Winnipeg Vancouver St. John, N.B.

Boston  
New Orleans  
Syracuse  
Bangor  
Elizabeth

St. Louis  
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Seattle  
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Cleveland  
Kansas City  
Peoria  
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# Champion

## Dependable Spark Plugs

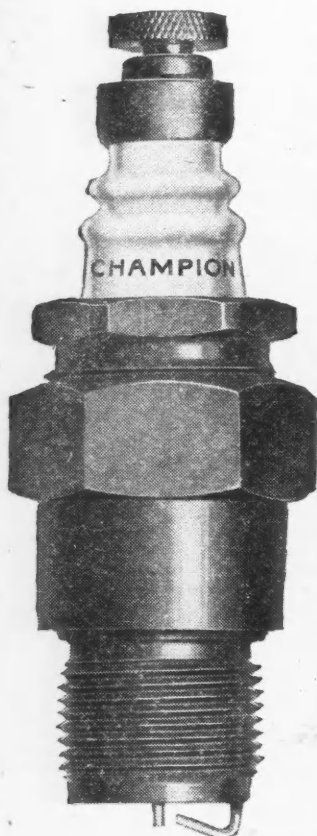
### Did You Ever Lose a Dollar?

THAT is what it means to you when you drop and break a spark plug. At least one out of every twenty spark plugs is broken in one way or another. Figured on that basis Champion Spark Plugs with an annual output of over 25,000,000 save their users over a million dollars a year on breakage loss alone.

Our famous No. 3450 Insulator has been developed and strengthened to such a degree that car owners who use Champion Spark Plugs are free from spark plug breakage and from trouble due to heat, shocks and temperature changes.

There is a Champion Spark Plug for every type of motor car, truck, tractor, motorcycle and stationary engine. Order a set from your dealer today.

*Be sure the name Champion is on the Insulator and the World Trade-Mark on the Box*



Champion Spark Plug Company, Toledo, Ohio

### ATTENTION, SALESMEN!

The AMERICAN FRUIT GROWER is now assigning territory to subscription representatives in Arkansas, Missouri, Kansas, and Iowa. If you live in these states or contemplate going in this section soon, place your application at once and represent the only national fruit publication in America. Salary and expenses paid.

**W. W. RHOADS**

BRANCH MANAGER

1411 Wyandotte St.

Kansas City, Missouri

### HOW HOLLINGSHEAD CO.

HAS SIMPLIFIED THE MAKING OF BARRELS



Barrels are shipped knocked down, saving freight hauling and storage room. Easily assembled from staves, heading and hoops, fully finished material, all ready to use, including nails. Setting up form, truss hoops and hoop driver loaned free—enable anyone to make a barrel in a few minutes. We have barrel factories near enough to you to supply these knocked down barrels at lowest freight rate. Prices are lower now than later. Write for free booklet fully illustrating the Hollingshead Co. method of making barrels from knocked down stock.

Write For It Today

**J. D. HOLLINGSHEAD CO.**  
210 S. La Salle St. Chicago, Ill.

### More About Chestnut Culture

By W. C. Deming, Connecticut

Questions about nut growing will be answered through these columns, or direct by mail. Address Dr. W. C. Deming, American Fruit Grower, Chicago, Ill.

PEOPLE within the native range of the chestnut cannot set any known variety without the probability of its being attacked by the blight. In case of a commercial plantation, this would be serious because of the difficulty of watching for the first appearance of the disease and of treating it successfully on a large scale. But in the case of a limited planting, it might be possible to keep it fairly free from disease and get profitable results. Dr. Morris, who has had great experience, says that it is safe. My own experience has been that even where the trees are close to the house, and it is possible to see them frequently, human watchfulness is usually no match for the insidious attacks of this destructive disease. But I don't want to say that such a thing is not possible.

Outside the native area of the chestnut commercial plantings are almost certainly safe from the blight and the promise of great profit is very bright. In fact this has been demonstrated already in at least one locality. But before making commercial plantings in any locality, it is necessary to know if the chestnut will thrive there. It probably will not do so everywhere. If it is not known to be grown successfully in any locality, experiments are necessary before extensive planting. For this purpose, and whether commercial plantings are intended or not, I advise everyone with the land for it outside the native area of the chestnut, and where the climate is not too severe, to set a few of the modern improved varieties of this tree. I know of nothing horticultural likely to give greater satisfaction and I hope that the area of chestnut culture will spread far and wide in the United States.

#### Plant Blight-Free Trees

Trees must be bought from nurseries outside the native chestnut area and known to be free from blight.

In some of the older chestnut orchards, situated where the native trees are abundant, the chestnut weevils have been so destructive that practically none of the crop could be marketed. Where not surrounded by native trees, however, an orchard is not likely to become infested. To be on the safe side the orchard should be kept clean and free from fallen burrs and old nuts.

#### From an Authority

The following statements are made by Mr. E. A. Riehl of Illinois, our foremost authority on chestnut growing.

"I now think that Boone, Fuller and Progress are the most desirable varieties of chestnut that I know of. In the many years that I have grown chestnuts, I have not seen to exceed a dozen nuts that had a worm in them. They will grow on any soil that is not wet or underlaid by hardpan. We have the mercury go as low as 20 to 25 below zero at times and have never known the trees to be injured.

"As for planting and cultivation they need about the same treatment as fruit trees. The better the soil and cultivation the faster they grow and come into profitable bearing. However they can be planted on rough land not fit for cultivation and in time will produce profitable crops. The larger part of my plantings are on just such land; land that was shrubbed off and pastured, never had a plow on it. Now the trees are so large that cattle and sheep do no harm and the trees bear as well as those cultivated, but the nuts are not as large.

"Plant in fall or spring, same as is (Continued on page 20)



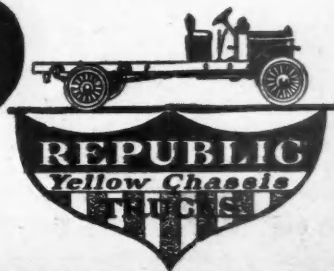
## Service

Two thousand service stations stand always ready for action, backed by seven factory-maintained National Parts Depots. This superior service, together with superior performance, accounts for Republic leadership in America.

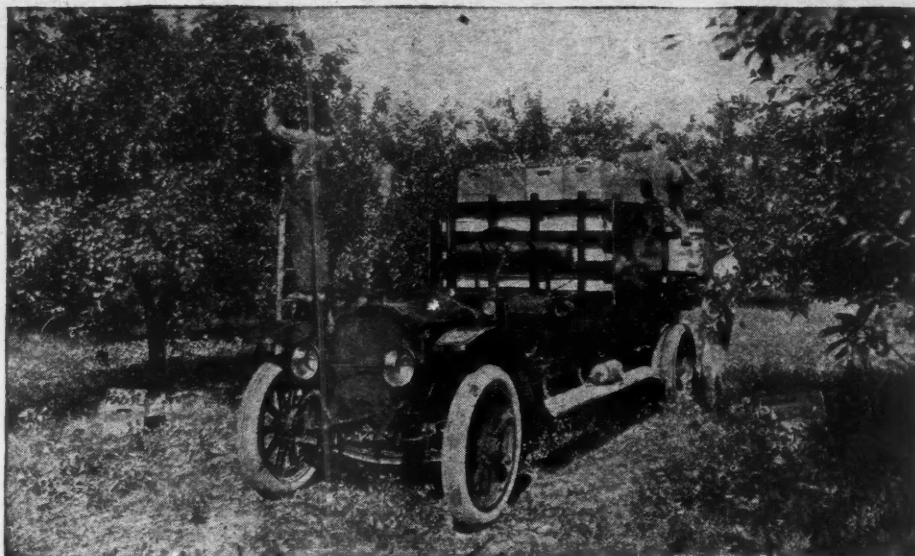


# REPUBLIC TRUCKS

Republic Truck Sales Corporation, 924 Michigan Ave., Alma, Michigan







## Georgia Fruit Grower Provides Transportation Equipment for Coming Season

**A**NOTHER prominent fruit-growing concern that has standardized on White Trucks for its transportation requirements is The Yonah Fruit Company, of Cornelia, Ga. This company owns extensive orchards in Habersham County, where it produces several varieties of Georgia Mountain apples.

The transportation involves, in addition to the work around the orchards, a two-mile haul from the packing plant to the nearest railroad switch and a four-mile haul to Cornelia, where additional and better shipping facilities are provided.

The Yonah Fruit Company bought its first White Truck in 1919. It was immediately applied to the hauling of apples to the railroad switch and to Cornelia and during the latter part of the season it transported a great part of the product from the company's 30,000 trees.

Anticipating their transportation requirements for the coming season, the company, early in the Spring, placed their order for their second White Truck.

In regard to his success with White Trucks, L. W. Palen, general manager of the company, writes as follows:

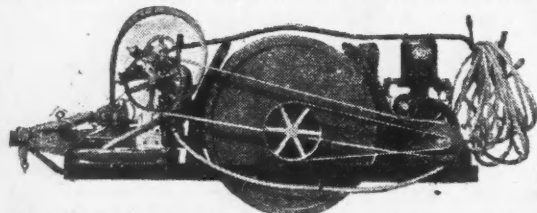
"The 2-ton White Truck purchased in September, 1919, has given entire satisfaction. We have placed an order for a second one of the same size as the one we now have for July, 1920, delivery. With these two trucks we expect to be able to do all our hauling on the road, as well as considerable hauling around the orchards."

This is but one of the many instances of successful installation of White Trucks in the service of fruit growers. We will be glad to give you detailed information upon request.

THE WHITE COMPANY  
CLEVELAND

# White Trucks

## VAN FLEET ROLLER SPRAYER



1920 Model—Left-hand side, showing transmission, idler, agitator pulley, etc., on Style "C" outfit. Filler pump shown in front of spray pump.

Send For Circulars Giving Full Information

**THE VAN FLEET COMPANY, Florence Villa, Fla.**

Kindly mention American Fruit Grower when writing to advertisers

**Gives Efficiency-Economy and Satisfaction in Spraying Operations**

One horse can pull a 150-gallon outfit with ease; two horses a 200 to 300-gallon outfit. Tractors can pull from 400 to 1,000-gallon outfits. It is only with this type of Sprayer that large capacity outfits can be operated successfully without damage to the roots or limbs of trees. We make any size desired.

**Satisfaction Guaranteed**

## More About Chestnut Culture

(Continued from page 18)

best for fruit trees in your section. Here I prefer fall if I can do so as I think the roots become more firmly established during winter and make a better growth. It is advisable to give plenty of room, 30 to 40 feet. The chestnut is not self fertile, therefore it is necessary for best success to plant several varieties. The market is good, 25 to 40 cents wholesale.

I know of no more promising horticultural proposition than chestnut growing. I have planted thousands of trees and am still planting. The Boone chestnut was originated by the late

## American Fruit Grower

Geo. W. Endicott of Villa Ridge, Ill. In the spring of 1895 he fertilized blossoms of Japan Giant with pollen of the native American. The seed thus produced was planted in the spring of 1896 in rich soil. In the fall of 1897 one of the trees grown from these seeds produced six burrs filled with nuts. It has borne annually since then the following number of pounds: 1, 3, 5, 6, 8, 12, 17, 25, 31, 43, 50, 56, 59, 80, 76 and 140.

## Walnuts May Lack Pollination

**Q.**—Your articles in the AMERICAN FRUIT GROWER have got me interested in nut trees. I have only about two-thirds of an acre of ground, on which I have 21 apple trees, 8 or 10 years old; 22 quince trees as fillers and 10 pear trees, together with a house and five small out-buildings, so that the room is pretty well taken up. But I could remove two pear trees of bearing age for one English walnut tree on the lawn north of the house, and remove a pear and a quince tree in the garden for another English walnut. If I could raise even the two trees for family use, later on as a partial substitute for meat, I think I could well afford to give up the pear and quince trees. I learn from your articles that all grafted nut trees can be expected to come into bearing much sooner than seedling trees, and that nut trees from seedlings almost always are disappointing in results, not over five per cent being worth keeping. That, of course, is true of other fruit trees. No one would think of planting a seedling apple. I note that you say the English walnut does better when grafted on the black walnut than when grafted on its own stock. Any suggestions from you will be much appreciated.—E. W. A., Pennsylvania.

**A.**—Well, you have made good use of two-thirds of an acre of land and I hate to advise you to take out any bearing fruit trees to make way for English walnut trees, especially as you would not get more than two, and these two might prove infertile from imperfect pollination. However, if you are bent on doing it anyway, I suggest that you go to, or visit, Mr. Jones at Lancaster, which is not far from you, and get his ideas as to the best varieties to plant under your conditions. You would be much interested in the nut trees to be seen there and at Mr. Rush's place nearby.

Thirty feet will be too near the apple trees if your English walnuts thrive as they ought to in your soil and climate and the care you will undoubtedly give them. But when they do interfere you will know which you would rather sacrifice.

## PARAFFIN FOR GRAFTING WAX

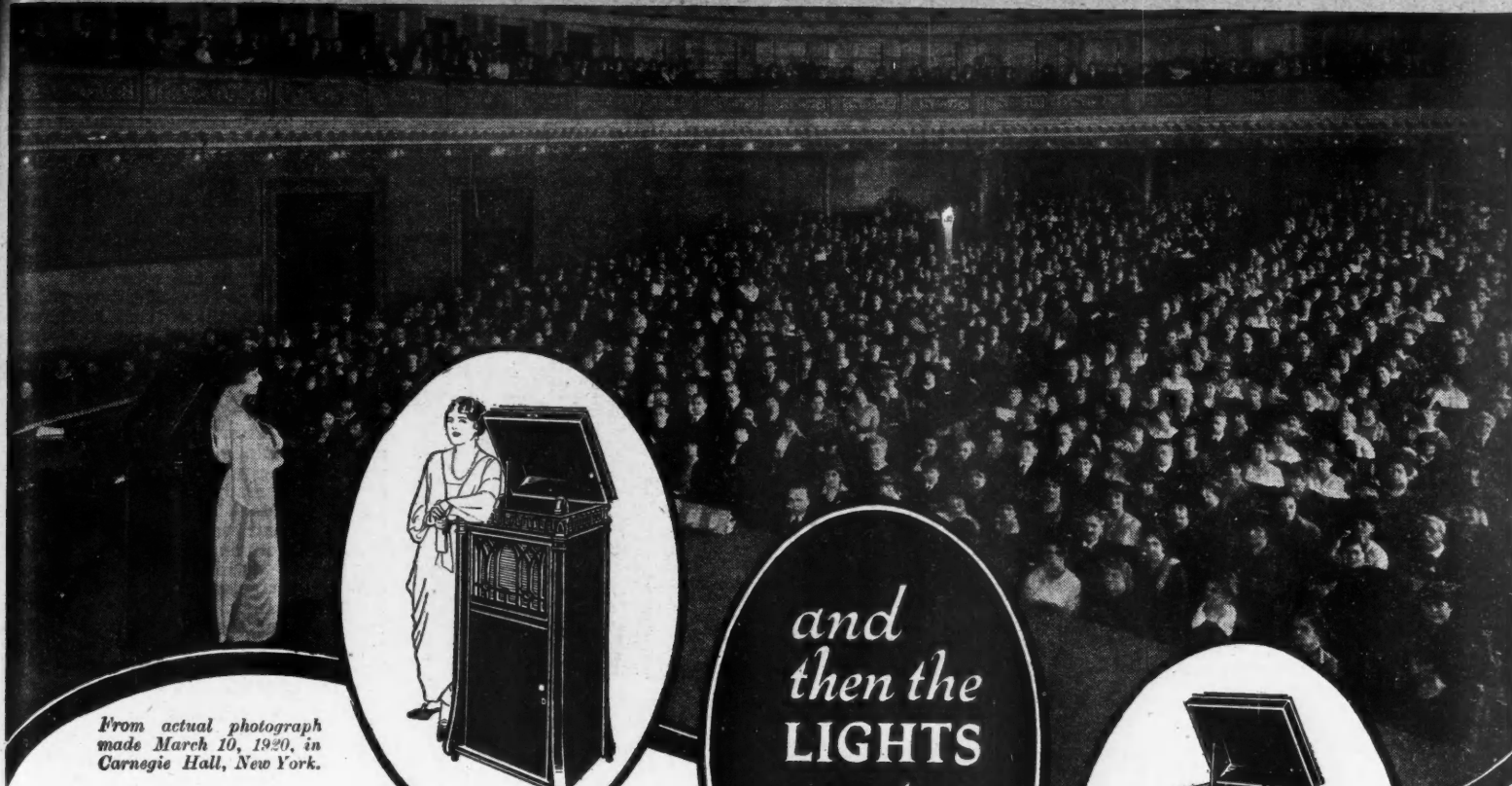
Under the caption, "Who Is Mistaken?" the AMERICAN FRUIT GROWER prints a letter from J. F. C. of Washington to the effect that when he incorporated paraffin in the place of beeswax in his grafting wax the scions and stocks were all killed back.

I have used paraffin in the same way with no unfavorable effect observed. I have never used the pure paraffin, but Dr. Morris, a man of great experience and authority, used plain paraffin, or parowax, last summer on a great number of grafts on nut and other trees and is very enthusiastic about the results having had success in nut grafting with this wax hitherto unparalleled in his experience. He thinks that he has had nearly 100 per cent success, which is remarkable for nut grafting, and he attributes it to the use of paraffin. He thinks that its greatest virtue is that it is translucent and admits light to the parts beneath. I shall use paraffin in all my work this year.

Kerosene oil is an active, powerful, penetrating fluid, especially poisonous to plant cells; at ordinary temperatures paraffin is an inert solid. Let any doubter try them in his own mouth. J. F. C. seems to imply that kerosene and paraffin having a common origin will have similar effects. But there are lots of coal tar products with very different effects.

Paraffin cannot be molded like ordinary grafting wax, but must be melted and applied with a brush. This is an immense improvement and does away with most of the bother part of grafting.





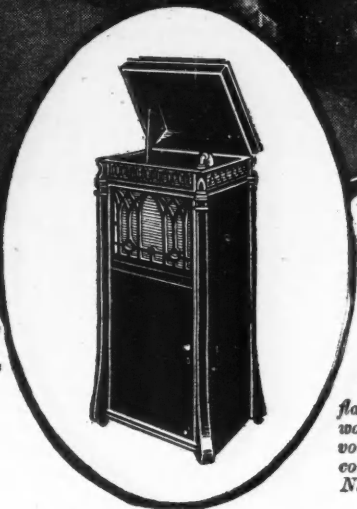
From actual photograph made March 10, 1920, in Carnegie Hall, New York.



Miss Case stood beside the New Edison and sang

and  
then the  
**LIGHTS**  
went  
**OUT**

The lights went out. Case's voice continued.



The lights flashed on. Case was gone. Her voice had been coming from the New Edison.

# The miracle at New York City

Great audience of 2,800 people couldn't tell which was singing—the New Edison or Anna Case. Startling "Dark-Scene" Test ends in overwhelming triumph for Mr. Edison's new phonograph. James Montgomery Flagg tells the story

(See New York papers of March 11th: "Times", "Sun and New York Herald", "Morning Telegraph", "Evening Mail", "Evening Sun", "Globe" and "Evening Telegram".)

Suppose you could have in your own home a phonograph exactly like the famous Official Laboratory Model which triumphed in this startling test!

—a phonograph that had actually rivalled one of the world's greatest sopranos!

—a phonograph which, by its marvelous art, had kept 2,800 New Yorkers glued to their seats!

Well, it was just a regular Official Laboratory Model which Mr. Edison used in this astonishing proof of the New Edison's realism.

## Carnegie Hall, New York

On March 10th, 1920, in Carnegie Hall, New York City, the great event came off. Anna Case, the superb American soprano, was there; she had been asked by Mr. Edison to make the test. Noted music critics, newspaper men and James Montgomery Flagg were there; they had been asked to witness the test.

The famous auditorium was packed to its top-most gallery. Curiosity ran high. Everybody was wondering what Mr. Edison was going to do.

## Mr. Flagg's Story

"A pleasant gentleman in an Ascot tie," writes Mr. Flagg, "introduced the phonograph, which

stood unemotionally in the center of the stage. Then Miss Case. She draped her beautiful self in an almost affectionate posture against the phonograph. One of her own song recordings was put on the instrument, and they, Miss Case and the phonograph, sang together. Then she would stop, and her other self would continue—then together again—I looked away and then back again—and it puzzled me to determine which was at the bat! She sang a charming duet with herself, too—one of them doing the alto business—I couldn't say which.

"Then the tallest pianist in the civilized world, sometimes called Victor Young, played a charming thing, accompanied by himself via the phonograph—lifting his fingers away from the keys now and again. I could SEE him stop playing, but I couldn't HEAR him stop. It was remarkable.

## The Dark Test

"Then the big stunt of the recital—the dark scene.

"Miss Case began singing with the phonograph. At a certain stanza, the house was suddenly darkened. The song went on. I was shooting out my ears like periscopes to detect the second when she would stop and leave the stage. I was sure I got it! But she seemed to be back again! Then I knew I was being completely deceived.

"The flood of light came on again—but no Anna! Only the self-possessed and urbane phonograph standing there, singing away.

"It was quite wonderful. The audience applauded. Two girls behind me said, 'Goo-gracious!' It was both charming and astonishing."

—James Montgomery Flagg.

## Guaranteed Duplicates

You can have an instrument every bit as good as the one that performed so wonderfully in Carnegie Hall.

The instrument used in Carnegie Hall, New York City, on March 10th, 1920, was an exact duplicate of Mr. Edison's original Official Laboratory Model, which cost him three million dollars to perfect.

Your local Edison dealer also has a duplicate of this famous three million dollar original. He'll be glad to show it to you. What's more—he'll guarantee this instrument to be able to sustain precisely the same test as that made at New York City on March 10th.

Look in your local newspaper for your Edison dealer's advertisements. Take the whole family along when you go in to see the famous Official Laboratory Model.

NOTE—If you don't know who your nearest Edison dealer is, drop us a postal. We'll tell you his name and address, and mail you, with our compliments, a copy of that fascinating book, "Edison and Music."

THOMAS A. EDISON, Inc., Orange, N. J.

**The NEW EDISON**  
"The Phonograph with a Soul"



# Railroad Teaches Texas Peach Growers

By W. B. Farrar, Texas

ANY MAN who has worked to any extent in extension work knows that the hard-headed, practical farmer takes a great deal of the doctrine of improved methods with a grain of salt, so to speak, and that he usually wants to see these methods "tried on the dog" before he accepts them unreservedly and puts them into practice on his own farm. The very fundamental principle of extension work, or the older term of demonstration work, was expressed by the late Dr. Seamen A. Knapp, when he said, "Do it and then talk about it." He meant by this that workers must really accomplish something worth while and financially profitable, and establish the feasibility and practicability of the thing before they could hope to get the particular innovation introduced and practiced by the people they were trying to reach. It was with this idea in mind that the agricultural department of the St. Louis Southwestern Railroad (Cotton Belt Route) has put on its two "better peach orchard" campaigns in East Texas, during the last two seasons, and its marketing demonstration at Brunswick, Texas, for five years. The following is an account of the campaigns and demonstrations and their results:

## Purposes

The purposes of these campaigns were to arouse and revive the peach production industry in East Texas; to raise the quality of the fruit produced, which facilitates transportation and selling and to put the industry on a safe and sound basis, so its growth will be permanent, consistent and healthy.

The methods employed to accomplish these purposes were to point out the successes of peach growers in similar territory and this immediate territory, always being fair and conservative, but talking about what has been done; to show the increased demand for good, well-graded peaches and illustrate by what has been accomplished in selling and handling better grades of peaches by men who have established reputations; to convince the people that orchards must have good care if they are to be profitable and to show by actual demonstration how the work of caring for an orchard is done.

For these campaigns, the Cotton Belt agricultural department fitted up three cars to carry the necessary equipment. Two of the cars were filled with well-arranged exhibits of orchard specimens, clay models of fruit in natural colors, enlarged photographs, pruning tools, small sprayers, spray solutions, orchard literature for distribution, etc. The third car was filled with traction machinery, power sprayers, orchard plows, barrels of spray liquid and all the other things necessary to give a complete demonstration in orchard cultivation, spraying, etc.

## The Plan

The plan of the work was to spend one whole day at each point where peaches are produced and loaded. The mornings were devoted to lectures and a trip of observation through the exhibit cars. The afternoons were spent in a nearby orchard, putting into practice the theories discussed in the lectures during the morning.

At these morning lectures, the peach growers were taken in small groups through the exhibit cars where informal discussions of peach diseases and pests were conducted. In every case, an orchard specimen of the subject under discussion was before the men. They were handed these specimens and given very specific instruc-

tions concerning every phase of the work of the pest or disease. In the case of insects, they were shown life histories illustrated by mounted specimens on cardboard. In every case the control measure was the main topic of discussion, and this was thoroughly impressed on the minds of the men, along with the other information that

power-spray pumps. When these talks were over, the power sprayers were used to put the dormant lime-sulphur solution on all the trees that had been pruned. Every man present was urged to take hold and handle the spray rod on a few trees. This was done for the same reason for which they were encouraged to use the prun-



Interior of the Railroad's Model Packing Shed During Tomato Harvest

was meant to help them in diagnosing the trouble in their orchards.

The afternoon was devoted to work in a convenient orchard. The train carried a tractor, which carried the power sprayers to the orchards. Here a short talk on the fundamental principles of peach pruning was made, followed by a demonstration in which a few trees were pruned. Then each peach grower was given tools and the crowd divided into small groups for about an hour's work, in which each man pruned a few trees under direction of a specialist and subject to the criticism of the other members of his group. In this way, the men were not

ing tools in the pruning demonstration.

Those who are familiar with the work done on these orchard campaigns all agree that, because of their intensely practical nature and because of the fact that real results have been shown, they have reached more people and will be more far-reaching in their effect on the fruit industry of East Texas than any single project that has ever been launched there.

## Marketing

Another demonstration that has been conducted during the past five years by the same railroad is a co-operative marketing demonstration at

allowing its farm superintendent to manage the shed for the association each shipping season. The agricultural workers of the railroad have kept in close touch with this demonstration and have insisted at all times on an honest pack of high-grade product. Then they have helped advertise this product in the markets.

The result has been that during the last five years, these tomatoes have consistently netted the growers from 20 per cent more in 1915 to 60 per cent more to 1919 than was made by the average grower in the remainder of the territory. This net surplus was made after every expense of grading, packing, loading, etc., was paid by the growers. Last season there was a ready cash sale for every car of tomatoes loaded at this point before the car was sealed, which has practically eliminated the undesirable delays and uncertainties incident to consignment sales. This net increase in the income from the goods sold, and ready sale of the goods loaded, have spoken more forcibly in favor of the plan than volumes of written bulletins, or a series of lectures could do.

## Results

Of course, the absolute results of extension work can never be fully calculated or even accurately estimated. All we can do is to record some conditions that are noticeable and leave the reader to judge whether this kind of work is worth while. But one of the noticeable things at all of the demonstrations was the large attendance of farmers who are now growing peaches in a commercial way, or who are thinking about planting an orchard. They wanted to learn the better methods and were not drawn to the demonstrations altogether through a spirit of curiosity. They asked questions, lots of questions, and when the day's work was done, those who were in charge of the demonstrations often felt as though they had been subjected to a grilling that made a college "exam" seem trivial. But tangible results in the way of new orchards can be seen.

During the planting season of 1919-20, the farmers in the East Texas territory have bought and planted all the peach trees the nurseries could furnish; and they have demanded good trees, free from diseases they have been warned against, and have demanded the assurance that the trees will be true to varietal name. They have ordered 10 carloads of lime-sulphur to fight the San Jose Scale alone, and will order much more for their summer sprays. The dealers have been absolutely unable to supply the demand for spray machinery. The farmers even bought five spray machines that were used for demonstration purposes. As one travels over the territory, he sees old, dilapidated orchards being rejuvenated by dehorning and cultivation, and the younger orchards being pruned and shaped to give the maximum producing surface and to encourage the maximum production of fruiting wood on the minimum framework.

At least a dozen communities whose marketing conditions have become intolerable are asking questions about the work at Brunswick and have expressed their intention of adopting the method at their own loading points.

And again we reach the old conclusion that the very best way to interest farmers in better methods is to go into their midst and make a real demonstration, the results of which are so evident that they demand attention and inspire faith.



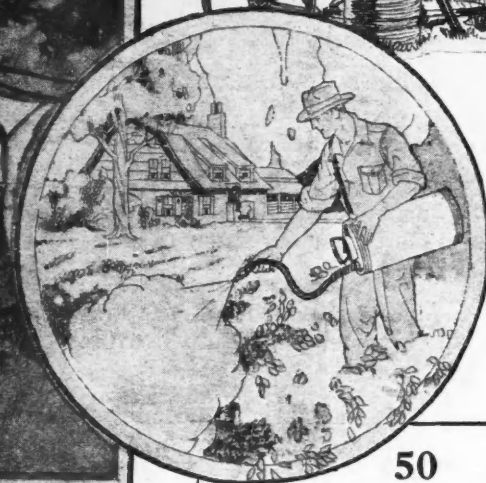
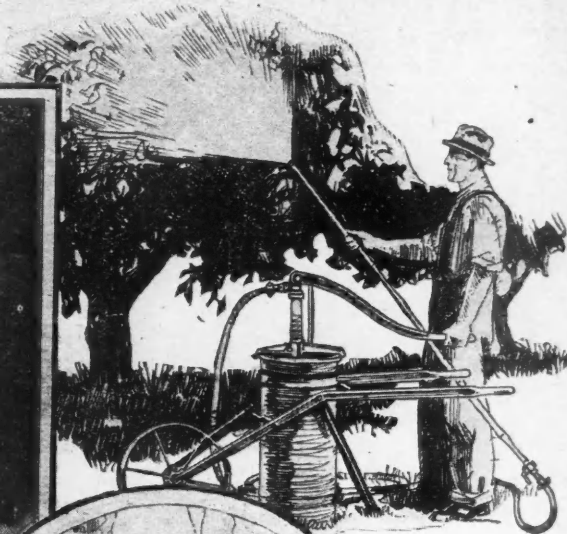
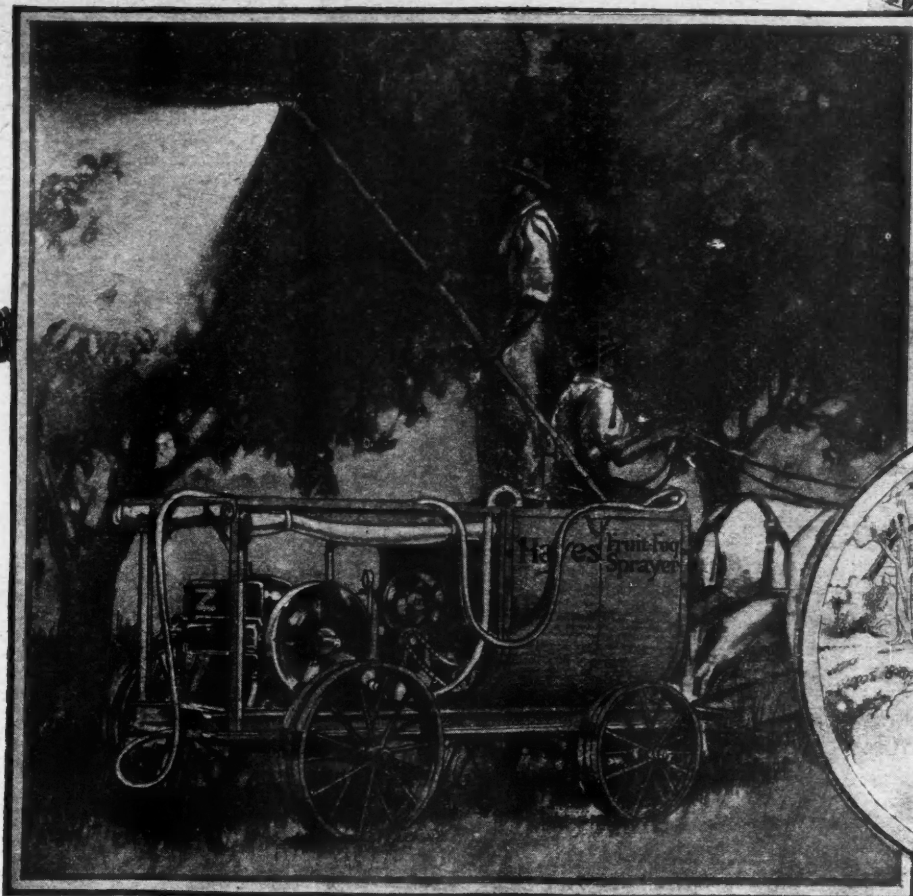
A Group of Interested Spectators at One of the Demonstrations

only shown the principles of pruning, but were given practice in the use of good tools and were given a degree of self-confidence gained only through actual work.

When an hour had been spent pruning, the groups were called together again around the power sprayers. A short talk was made on the general subject of orchard spraying. The power sprayers were explained and the engines started and the men instructed concerning the handling of

Brunswick, Texas. This project deals with the tomato crop produced at that point. The Cotton Belt built a model packing shed at Brunswick, and then brought in experienced graders and packers to handle the crop. These men were given specific instructions that only the best grade of product was to be packed and sold under the adopted label. Since a few local people have learned to grade and pack tomatoes, the local people are able to handle their own business by the road





## Are Farm Pests Costing You Fortunes?

For years government experts have said, "Kill the millions of destructive pests and fortunes will be added to farm profits each year."

Today thousands of farmers and fruit growers offer enthusiastic proof that the terrific losses from life-sapping, profit-stealing pests *can be prevented* by Fruit-Fog, the vaporous, high-pressure super-spray.

Farmers and fruit growers ought to send the coupon and learn all about famous Fruit-Fog spraying. Learn why, for example, *only* a vapory fog-like spray can penetrate into the microscopic niches in bark, buds and foliage—where millions of tiny UNSEEN pests hide—and where no coarse, heavy, low pressure spray can possibly reach.

Our new FREE book explains how Fruit-Fog is produced by Hayes 300 lb.

**HAYES PUMP & PLANTER CO., Dept. P, GALVA, ILL.**



**FAIRBANKS-MORSE & COMPANY**  
Distribute Hayes Power Sprayers, Engines and Repairs. Therefore Hayes users are within 24 hours of a service station at all times. In case of accident at a critical time this quick service may save your fruit crop. Hayes Hand Sprayers are distributed by hardware, implement and seed jobbers.

high pressure and the famous Hayes nozzle. How it is scientifically atomized—why it envelops everything like a mist, does an absolutely *thorough* job, and has wonderful adhering power. No drops form—no solution wasted—no buds or leaves knocked off—as with coarse, heavy, low pressure sprays.

Hayes Fruit-Fog Sprayers are skillfully made to give enduring service and greatest efficiency under high pressure. The famous Fairbanks-Morse "Z" Engine assures reliable engine service.

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Tell us what you want your sprayer to do, and we will tell you the style best suited to your needs, and its price. We will also send our new Sprayer Book and Valuable Spray Guide FREE.

Send the coupon today.

### 50 Styles of Hayes Sprayers



Hayes Hand Bucket Spray Pump



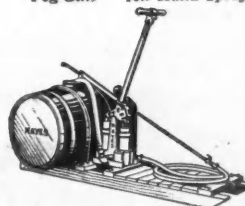
Hayes Fruit-Fog Gun



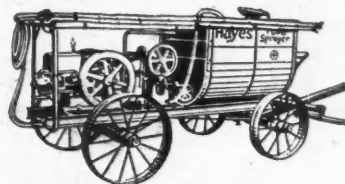
Hayes Compressed Air Hand Sprayer



Hayes Hand Barrel Spray Pump



Hayes Platform Duplex Hand Sprayer



Hayes High Pressure Triplex Power Sprayer

Hayes Pump & Planter Co.,  
Dept. P Galva, Ill.

Please send FREE and without obligation your Big New Book of Hayes Sprayers and your Valuable Spraying Guide.

Number of trees..... Average Age.....

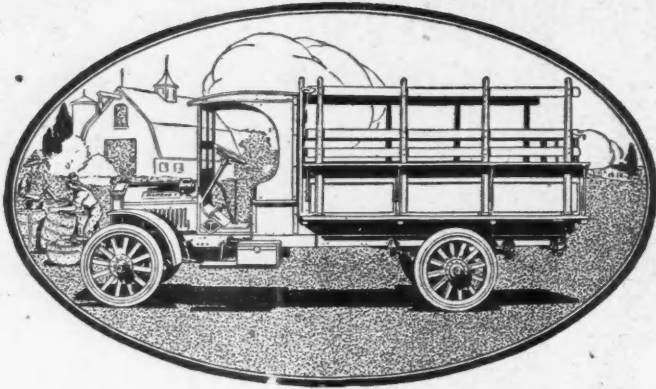
Other uses.....

Name.....

P. O. ....

State..... R. F. D. ....





## Diamond T Farm Special

WHETHER you devote all of your attention to your orchards or combine fruit production with general farming, here's a truck built especially to meet your particular needs.

Its one-man, quick-change body that fills every haulage requirement on the most progressive farms is only one of the many features that put it in a class by itself.

Exceptional endurance, unusual economy, unapproachable power and stamina, advanced farm design, freedom from the need for repairs—these are some of the features that make it unique among 1½-ton trucks.

Your name on a postcard will bring you complete and interesting descriptive matter.

### DIAMOND T MOTOR CAR CO.

Builders of "The Nations' Freight Car."

4546 West 26th Street.

CHICAGO, ILL.

## Agricultural Gypsum

### A Proven Food for Alfalfa Clover and Other Crops

Tests made in recent years by Agricultural Stations in various parts of the country have shown conclusively:

1. That alfalfa, clover, cow peas, soy beans, vetch, cabbage, turnips, rape, onions, potatoes, tobacco, etc., use much sulphate sulphur.
2. That sulphate sulphur is supplied most economically by AGRICULTURAL GYPSUM.
3. That by increasing legume growth AGRICULTURAL GYPSUM increases the nitrogen in the soil and assures increased future crop yields.
4. That AGRICULTURAL GYPSUM preserves barnyard and hen manure and adds greatly to its value by fixing the ammonia which is rich in nitrogen.

Insure profitable returns from your high priced clover seed, alfalfa seed, etc., by applying this

### Economical Plant Food

Your local building supply dealer can furnish you with Agricultural Gypsum. Give it a trial this spring on a test strip.

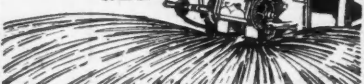
Send a postcard to-day and we will forward you free our new book "The How and Why of Agricultural Gypsum." Write quickly.

GYPSUM INDUSTRIES ASSOCIATION  
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16½ FT.  
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The first successful lime, phosphate and fertilizer distributor. Spreads evenly on level or hilly land. Patented automatic force feed; attaches to any wagon in 3 minutes. Save Time, Labor and Money—Handle Fertilizer Only Once.

30 DAYS' TRIAL, You run no risk

Use the Holden Lime, Phosphate and Fertilizer Distributor 30 days—put it to every test. If it does not do all we claim send it back and your money will be refunded promptly. Write today for full particulars and special trial order.

THE HOLDEN CO., Inc.  
Dept. 12 Peoria, Ill.

## Taming the Blueberry

(Continued from page 16)

foot deep should be mixed with the upper six inches of soil. In gardens with heavy clay soil, such a mixture of one-third sand to two-thirds partially decayed leaves should be placed in trenches or on top of the ground, depending on whether, in that particular garden, it is more necessary to conserve moisture or to facilitate drainage.

The care of blueberry plants set in specially prepared soil is exceedingly simple. It consists of watering when necessary and of maintaining about them, by annual additions, a heavy mulch of leaves. These leaves should be of oak or some variety which rot slowly. Maple leaves and others which rot quickly will not maintain the necessary acidity in the soil. The leaves supply all plant food necessary. Manure or artificial fertilizers should be carefully avoided, as they are likely to be injurious.

The moderate amount of care necessary to provide blueberry plants with congenial surroundings in the home garden will be liberally repaid by a supply of the most delicious berries.

## Troubles of the Beginner with Bees

By Frank C. Pellett

BEGINNERS with bees can usually be divided into two classes. The first class assume that there is nothing to beekeeping except to hive swarms and put on supers to be removed when filled with honey. One very frequently comes in contact with such beekeepers, after years of experience, still clinging to the same notion. They will tell you that the stories of success are greatly exaggerated, that they have kept bees and know all about them and that the fellow who claims to make 100 pounds of surplus honey per colony from his bees is not to be believed.

The other class assume that beekeeping is a mysterious and intricate business which can only be understood after long experience and diligent study. The truth lies somewhere between. The essentials of success are not many nor are they hard to understand. However, local conditions vary so greatly that methods of practice must be modified to suit if the best results are to be acquired.

Beginners' bees usually suffer from too much attention or entirely too little. The modern hive is so constructed that it is possible to remove every frame and peek into the darkest corner. The object, of course, is to enable the beekeeper to know what is going on and to control unfavorable conditions. It is wise to start with about five colonies since there are so many things that can go wrong that the beginner with only one hive often loses it. A colony of bees is the hive and its occupants, an apiary is the total number of hives of bees in one place and the equipment used in their care. Unless the beekeeper knows what to look for when he opens the hive, there is no particular advantage in manipulating the hive, unless it be for what can be learned through the operation.

The following questions are typical of those coming to this department. We are always glad to help you with your particular problems.

### Bees Die

Q.—Seeing your article in the AMERICAN FRUIT GROWER, I thought I would ask for more information about how to raise bees. I got a swarm last fall, but not knowing anything about them they died. Any information you can give me will be appreciated.—S. J. C., Maine.

A.—A beginner with bees will always do well to buy a good text book on the subject as it is likely to save many mistakes. You will do well also to write to your state agricultural college and enquire whether they offer a correspondence course in beekeeping. Several states are now offering such courses at moderate cost. Prof. Wm. H. Wolff of the New Hampshire College of Agriculture at Durham, offers such a course. The Iowa College of Agriculture offers a correspondence course to those interested in bees, regardless of their place of residence. The entire cost of this course barely covers the text books used and the postage. Two books are included with the course and a certificate given following successful examination. Those interested can enroll by sending \$4 to Prof. F. B. Paddock, State Apiarist, Ames, Iowa. The applicant should state whether he already has any bee books and if so give the titles so that books sent will not duplicate those already at hand.

### Dividing a Hive

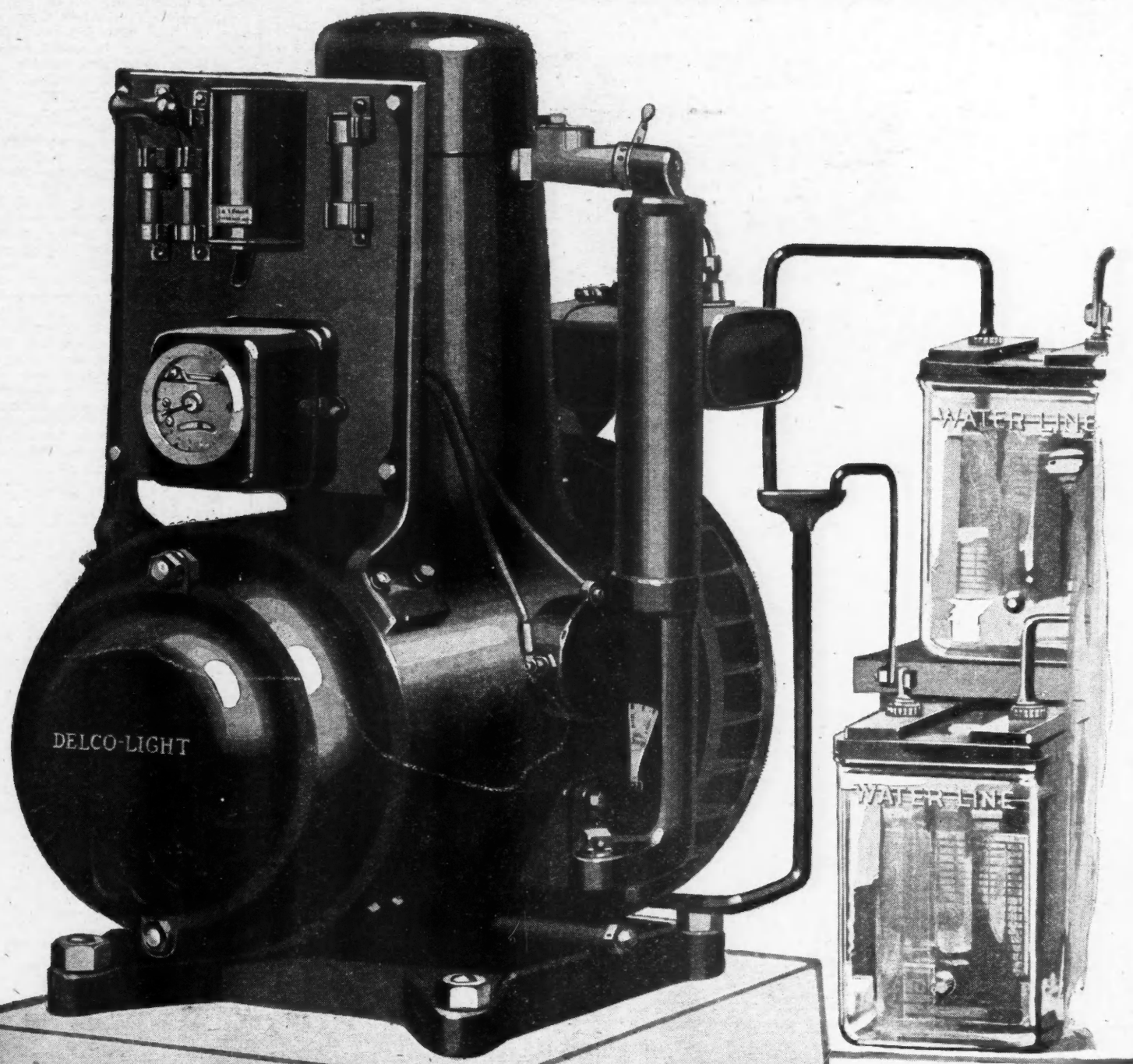
Q.—I have one hive of bees and would like to make two hives out of this as early this season as the weather will permit. How can I induce artificial swarming? New queens are hard to obtain at this season of the year, hence kindly explain how to do all this so the bees will raise their own queen. Do queen bees sting by taking hold of them?—A. H. M., Minn.

A.—It is not usually advisable to attempt artificial increase early in the season. It is better to wait until the (Continued on page 29)



# DELCO-LIGHT

The Complete Electric Light & Power Plant



## 100,000 SATISFIED USERS

On farms, In Country homes, Schools, Churches,  
Stores & Garages.—Famous Valve-in-the-head-  
Motor, Air Cooled, Ball Bearings, Thick Plate,  
long lived Batteries, Runs on Kerosene—

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**DELCO-LIGHT COMPANY, DAYTON, OHIO**



# GARFORD



**WITH** a Garford truck you can make added profits by hauling for your neighbors. The all-around serviceability of Garfords in farm work gives you the time for these extra profits.

*Garford*

Lima, Ohio

The results of a recent investigation among 4,000 Garford owners show 97.6% are 100% satisfied—proof of Garford Low Cost Ton-Mile.

# TRUCKS

## The Threshing Problem Solved

Threshes cowpeas and soybeans from the mown vines, wheat, oats, rye and barley. A perfect combination machine. Nothing like it.

"The machine I have been looking for 20 years." W. F. Massey. "It will meet every demand." H. A. Morgan, Director Tenn. Exp. Station. Booklet 55 free.

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**Build This Phonograph Yourself**  
TREMENDOUS SAVING IN COST

Easy, fascinating work with our SIMPLIFIED PLANS. We furnish blue prints, diagrams, motor, cabinet pieces, ready-built horn, etc. You don't need to be a cabinet maker. A few hours assembling and you will have a fine instrument at one-quarter the regular retail price. **AGENTS MAKE MONEY** making and selling these instruments. Write today for full details and our FREE OFFER. Address—

**MODERN PHONOGRAPH SUPPLY CO.**  
233 Springer Building  
312 So. Clinton St. CHICAGO, ILL.

## GET BIG BUSH OFFER

We do not deal through distributors but County Agents only. **GET OUR BIG MONEY CATALOG TODAY.** Don't wait! Learn how you, in your spare time, can make Big Money, introducing Bush Cars in your County. The cars with money-back guarantee. Bush light four and De Luxe six. Don't wait. Write today!

**BUSH MOTOR CO., Chicago, Ill., Dept. F140, Bush Temple**

## Produced \$1,703 Pears

(Continued from page 6)

"150's," and larger and consigned them to a New York firm. They put them in cold storage until January 14th, when they sold at \$4.25 per box. After storage, commission, freight, insurance and labels were paid it left me \$1,403 or \$2.75 per box. The smaller pears were sent to New York in another car and sold in October from \$3.25 for the "C" grade, to \$3.95 for the others. These netted me \$2.46 per box or \$300. So, you see, this was not an exceptionally large yield, but were sold at a good price, and made a total income for the year from the 175 trees amount to \$1,703.

The packing was done by one woman in seven days' time. Pears are packed in one grade and marked "Fancy," only a few ill-shaped ones put in the "C" grade. The packing of pears is rather difficult to learn, but after one has learned, one can put up 80 or 100 boxes in a nine-hour day.

I am sending you two pictures taken

in the orchard. The ground was given a thorough plowing last fall and the litter on the ground is the brush from the pruning which at this date, February 26th, is not burned. The little girl shown in the picture is one year younger than the pear trees and the boy two years younger. The box of pears in the other picture has the lid raised. Each box has the number of pears which it contains plainly stamped in one corner; this one contains 135. These pears have been in cold storage since October and have to be kept in a warm place for a week to get them soft enough to use. They are very fine to eat and especially delicious when baked. The trees in the picture of the house are apple and peach, 13 years old. We have a concrete road past the place now and we consider this a fine place to live.

The strawberry shipments from Springdale, Ark., last season amounted to 112 carloads.

The famous Eisen vineyard of 650 acres near Fresno, Calif., has been sold for a sum reported to be \$450,000.

## Overcoming Sprayer Troubles

By D. L. Davidson, Missouri

**N**INETY per cent of sprayer troubles are preventable. The remainder are mostly due to faulty materials that are not detectable during the processes of manufacturing. These generally appear only after the sprayer has been in use for a longer or shorter time as the case may be individually.

We believe it a conservative statement to say that 90 per cent of the preventable troubles, real or imaginary, are engine troubles. The most common are ignition troubles, whether magneto or battery. We believe the average orchard man will have less trouble, and locate and correct them more easily with batteries than with a magneto. A large Kansas grower a few years ago decided to eliminate battery trouble. He had six or seven sprayers. He equipped all his sprayers with magnetos and bought an extra one for emergency use. The first year everything was lovely. The second year magneto trouble began to develop. In the meantime he had trained one of his men in magneto work. As the troubles developed he used the emergency magneto to keep the troublesome sprayer running while repairs were being made to the offending one. Before the third season was completed he was always one magneto behind. The fourth season he went back to batteries, and has succeeded fairly well in keeping all machines running with a fair degree of regularity.

### Troubles of the Trouble-Man

It is surprising how few sprayer owners really know or understand their sprayer, its displacement, actual discharge, gear reductions from pump to engine, engine speed, etc. This lack of knowledge and understanding is largely responsible for most of the worries of the trouble-man.

Give a gasoline engine of any make good compression, good spark and a proper gas mixture and it would rather run than not run. In fact, it cannot help but run.

Very few farmers ever read the instructions that come with the sprayer, beyond enough to enable them to get it started. If the sprayer is purchased from a dealer, the buyer finds it all wired up and ready to run. This relieves him of the responsibility of any mental effort on his part. Therefore, he never checks it over, never takes any time to study it and find out what the various parts are for nor their relationship to each other.

Last year an engine came under our observation. It apparently had never run properly. The owner admitted that he had tampered with it, but after each adjustment it had grown steadily worse. He was seriously considering buying a larger and more powerful engine. We were called in to see what could be done about it. The owner declared it too small to do the work that it was intended to do. After checking it over, our wonder was that it would even run at all, yet the owner said it would run. Every possible adjustment was wrong. Exhaust valve opening and closing too soon by 90 degrees; ignition too quick and holding too long; leaky intake valve; dirty gas tank; main bearings and connecting rod loose, and a lot of other little things.

### When Engine Base Broke

The salesman who made the sale stopped as soon as the sale was made. He made no effort to show this man how things ought to be and why they were so. As we made the various adjustments we tried to explain why they were so and their relations to the other parts of the engine. By the time the engine was ready to run, this man knew more about his engine and pump than he had learned in three years before. Later he had the misfortune to break the engine base. He was obliged to dismantle it for the

(Continued on page 28)

for J

"Hors

Twelve years for 6 cents a makes gasoline

In 1896 there biles in the there are 7,000

Motor-driven States repres energy 150,0 against 45,000 and stationar bined. It is only 15,0 available from United States

Edison made for lighting Traffic Tru ing with team

Due to the e strike on ship dealer in Des twenty-five r factory recent Traffic Truck destinations t of farmers for

The Traffic w it costs to ha

The Traffic 4,000-lb. cap world. Bu units.

Traf Spec

Red Seal C motor; Cov multiple disc neto; Carter cast shell, ator; drop with Timk ings; Russel gear, roller b front and rea channel fra tires, 34 x 3 133-inch w length of fra seat; oil cup chassis paint nished; driven cushion regul matic cord extra cost. chassis

Traffic Truck with cab, ho (painted and tras require at factory.

Notic

It is Traffic connections and village and Canada

The demand it necessary duction this

Many dealer now for futu

You have n



**"Horse Sense"**

Twelve years ago gasoline sold for 6 cents a gallon. A Traffic makes gasoline money go farther.



In 1896 there were only 4 automobiles in the United States—now there are 7,000,000.



Motor-driven vehicles in the United States represent in the form of energy 150,000,000 horse-power, against 45,000,000 in steam, water and stationary gas engines combined. It is estimated that there is only 15,000,000 horse-power available from all the horses in the United States.



Edison made the burning of candles for lighting an expensive luxury—Traffic Trucks have made hauling with teams unprofitable.



Due to the effect of the railroad strike on shipping, a Traffic Truck dealer in Des Moines, Iowa, sent twenty-five men to the Traffic factory recently. They drove 25 Traffic Trucks to their respective destinations to meet the demands of farmers for immediate deliveries.



The Traffic will save 50% of what it costs to haul with teams.



The Traffic is the lowest priced 4,000-lb. capacity truck in the world. Built of standardized units.

**Traffic Truck Specifications:**

Red Seal Continental 3 $\frac{1}{2}$  x 5 motor; Covert transmission; multiple disc clutch; Bosch magneto; Carter carburetor; 4-piece cast shell, cellular type radiator; drop forged front axle with Timken roller bearings; Russel rear axle, internal gear, roller bearings; semi-elliptic front and rear springs; 6-inch U-channel frame; Standard Fish tires, 34 x 3 $\frac{1}{2}$  front, 34 x 5 rear; 133-inch wheelbase; 122-inch length of frame behind driver's seat; oil cup lubricating system; chassis painted, striped and varnished; driver's lazy-back seat and cushion regular equipment. Pneumatic cord tire equipment at extra cost.

chassis \$1495 factory



Traffic Truck chassis equipped with cab, hoist, steel dump body (painted and varnished), no extras required, \$1990 complete, at factory.

**Notice to Dealers:**

It is Traffic policy to make direct connections in every city, town and village in the United States and Canada.

The demand for Traffics has made it necessary to quadruple the production this year.

Many dealers are getting in line now for future Traffic franchises.

You have no time to lose.

**Praise from the Pacific Coast**

ALBERT S. CONGDON  
CARLOT SHIPPER FRUITS AND PRODUCE  
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SHIPPING STATION:  
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OFFICE:  
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NORTH YAKIMA, WASH.

January 31, 1920.

Traffic Motor Truck Corp.,  
St. Louis, Mo.

Gentlemen:

The Traffic Truck which I bought from your distributor, the Shields-Livengood Motor Co., of Seattle, Washington, is giving splendid service and I am well satisfied with my purchase.

I consider it the best value for the money of any truck on the market.

I am using it for quick trips to town from my ranch, and it does the work speedily and well.

During the pear season I transported nearly all of my Bartletts to the city, making six trips of 4,000 pounds each, daily, at no expense other than gasoline and oil, which was exceedingly low, and driver's wages.

It has never failed me yet. I was first attracted to it because its specifications represented unusual value at the price. It operates as easily as one of my passenger cars, and every unit in the truck is giving satisfaction.

Appreciating the fact that the services rendered by your truck warrant me in extending this information, I am,

Very truly yours,

(Signed) ALBERT S. CONGDON.



**Write for Catalog Today**

**Traffic Motor Truck Corporation, St. Louis, U. S. A.**

*Largest exclusive builders of 4,000-lb. capacity trucks in the world*



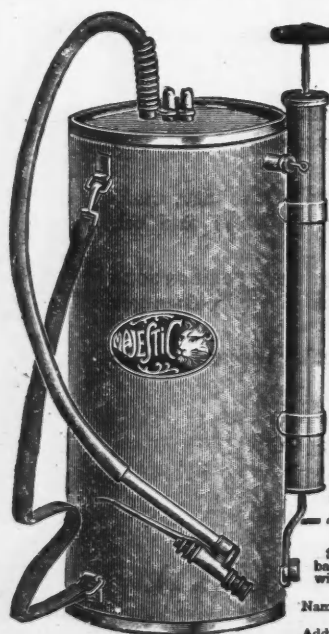


## Here's the Man and Here's His Work

**T**HIS man is the trained representative of the Milwaukee Air Power Pump Co. He lives and works in your own county. His work was to increase the value of this farm, and increase farm profits. He did it by installing what you see in the above illustration; fresh water direct from the well and cistern to the farmhouse, barn, watering trough, dairy and lawn; no storage tank or stale water. And he put electric light in all the buildings. He installed a flushing closet, put hot and cold running water in the

farmer's kitchen and bathroom; fresh drinking water direct from the well to the house, water in the barn for the cows; electric light in all buildings. So doing, this expert made a modern farm. He has been trained, and it costs nothing to get his advice. See him. Ask him what he can do for you; let him question you about your needs. If you decide he can help you, tell him to go ahead; and he'll increase the value of your farm and your profits. We have a representative in your county. If you don't know him, write us.

MILWAUKEE AIR POWER PUMP CO., 902 3rd St., Milwaukee, Wis.



## Pay Nothing Until 60 Days

Now is the time you need a good, reliable sprayer for fruit trees, vines, shrubbery, for white-washing barns, chicken houses, hog sheds, etc. Here's a sprayer that will do the work thoroughly and quickly and pay for itself in increased profits. Prove it at our risk. Just send coupon—no money—and we will ship sprayer promptly. Use it 30 days free. If you then decide to keep it, make first small payment in 60 days, balance in 60-day payments, giving you nearly a

## Full Year to Pay Majestic All-Purpose Sprayer

This hand sprayer is just what you want if you haven't enough work to keep a power sprayer busy. Working parts made of brass. Specially constructed pump with high grade 4-ply rubber tubing. Automatic shut-off nozzle with non-clog spring cap. Light convenient. Easily taken apart for cleaning. Contents kept continually and thoroughly mixed. Sprays to the last drop.

## FREE Book of Farm Necessities

Sends wonderful bargains in gas engines, cream separators, drills, cultivators, saw frames, circular saws, feed cookers, paints, roofing, etc. Write postcard for free copy. Send coupon today for this sprayer and take nearly a year to pay if you like it. Just the coupon. No money.

**THE HARTMAN COMPANY** — 3800 LaSalle St., Dept. 2663, Chicago  
Send Sprayer No. 433A.M.A.40. If satisfactory I will pay \$2.00 in 60 days; balance in 60-day payments of \$2.00 each until price of \$6.96 is paid. Otherwise I will return it in 30 days and you pay transportation both ways.

Name.....  
Address.....

Kindly mention American Fruit Grower when writing to advertisers

## Sprayer Troubles

(Continued from page 26)

welder. He reassembled it himself. Since that lesson he has repeatedly stated that the engine was better than at any other time during the four years that he had owned it. When his neighbors had similar troubles and the trouble-man could not be ready, he was able to fix up their troubles.

We find a tendency among too many men, to begin turning something as soon as their engine stops, without having any idea what they are turning things for, except possibly subconsciously to keep elbow grease in circulation. In the last analysis this desire to turn something is a sort of reflex action due to habit. Some men seem to have an idea that they know more about any engine than the man that designed it.

### Observe These "Don'ts" and "Do's"

We have given considerable of our time in the past three years to service work. Having in mind some of the things we have learned, we emphatically say:

Don't turn and try to adjust things on a gasoline engine unless you know what the turning is for.

## American Fruit Grower

Don't try to run a gasoline engine without gasoline.

Don't try to run it with water.

Don't use too much or too little cylinder oil. One is as bad as the other. Find out how much is just right.

Don't, when things go wrong, take your single cylinder gasoline engine to the best automobile man in town. In ninety-nine cases out of a hundred he makes it worse than it was.

What do you know about your pump? Do you ever look it over to see that all bolts and nuts are properly tightened? Do you let it stand full of lime-sulphur solution or Bordeaux mixture? Do you ever wash out the valves? Do you ever oil the threads on exposed bolts that may possibly need adjusting?

What about the tank? Do you ever clean it out and get rid of the precipitate? When it stands dry awhile do you ever clean out the accumulated scale before trying to spray?

How do you care for the hose? Do you leave it connected to the sprayer and full of spraying solution? Do you coil it closely or bend it short while empty and then turn on the pressure? Do you ever wash it out between sprayings? Do you ever coil it loosely and hang in a cool shady place to air out?

Do you ever take your fittings apart and clean and oil them? Do you ever take your spray gun or ordinary nozzle with whirl chamber removed and wash your sprayer thoroughly inside and out? If not, why not?

Finally when the sprayer is ready to put away for the season try washing it thoroughly with a mixture in the following proportions: Concentrated lye, one pound; oil (any kind), one gallon; water to make 25 gallons. Use the spray gun for this. Have at least 200-pound pressure. Do a thorough job. Wash off all surplus grease and dirt. You can reduce preventable troubles 90 per cent. "There's a Reason" for preventable troubles; carelessness and indifference. The cure, "Use your head."

## THE CHAUTAUQUA-ERIE GRAPE CROP

For the season of 1919 the estimate is made that the Chautauqua-Erie grape belt in New York produced a total of 49,212 tons of grapes, according to the Grape Belt of Dunkirk, N. Y. Of this amount the juice factories used 27,354 tons while 21,358 tons were shipped out of the district. For their grapes the growers received a grand total of \$4,622,411, which is said to be the largest amount of money the crop has ever produced.

The quantity of grape juice produced is not definitely known, but it is believed that all of the manufacturers in the grape belt made in excess of four million gallons. According to a survey of the district, the grape acreage is placed at 36,000 of good and poor vineyards, and on this basis the returns per acre per year for the past five seasons was \$77.88. The average returns per acre per year for the four years preceding 1919 averaged \$65.25.

## FERTILIZER FOR BLUEBERRIES

By Edward C. Sherman, New York

Your correspondent Myron T. Bly, whose article on blueberry raising appeared in your February issue, may be interested in knowing that a mixture of two pounds, 16 per cent acid phosphate, 1/2 pound sulphate of potash and one pound of sulphate of ammonia makes a good fertilizer for blueberries. This is applied at the rate of one pound of the mixture to each 30 to 50 square feet.

Manure and ashes, mentioned by Mr. Bly, tend to neutralize the acid soil that the blueberry need. I have grown the blueberry to 11-16 inch in diameter by chemical feeding. I have successfully transplanted the wild blueberry bush with a good ball of earth into ordinary soil, setting the ball four inches lower than where it grew, mulching with oak leaves and feeding with chemicals.

## for

## TROUBLE

(Continued from page 27)  
weather is bees has frames of are lifted a new one out a queen this plan lings and before the pay. It swarm plan.

Where ipation of laying que made the Artificial bilities to fully the who will the right too often and it is a swarming experience to be money cro To full require fa able here every goo The qu

Q.—King there will or tell me queen cel be to inse would not thought Kindly le mail. Am ing bees

A.—Qu time after spring. ing queen ipation of superseded queen in not likely prepare large hiv comforta contented swarming

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Unless more tha not be a will ever ness. V sidered In any o always or newly without queenles a frame they wil unless th A que a peanut comb. the side some ir lower ed

## AMERICAN

On Ja estry As forest t France reforest of these was ma Charles were E spruce, western rock an lar.



TROUBLES OF THE BEGINNER  
WITH BEES

(Continued from page 24)

weather is warm and the colony of bees has become strong. If half the frames of brood and adhering bees are lifted from the hive and placed in a new one, the bees in the hive without a queen will rear one. However, this plan results in making two weaklings and nearly a month will elapse before the young queen will begin to pay. It is better to let the bees swarm naturally than to practice this plan.

Where queens are reared in anticipation of making increase and a laying queen given to each division as made they will do much better. Artificial increase offers great possibilities to the man who understands fully the difficulties to be met and who will not undertake it except at the right time. However, beginners too often lose their bees in this way and it is safer to depend upon natural swarming until one has considerable experience. Early divisions are likely to be made at the expense of the honey crop.

To fully explain the subject would require far more space than is available here but it is discussed in nearly every good book on beekeeping.

The queen bee very rarely stings.

## About Queen Bees

Q.—Kindly let me know how soon there will be queen cells in my latitude, or tell me how to start a swarm to make queen cells and how old the cell must be to insert into a queenless swarm. I would not like to open a hive unless I thought I could find a queen cell. Kindly let me hear from you by return mail. Any other information concerning bees gladly accepted.—C. M., Md.

A.—Queen cells may appear at any time after the bees begin to fly in spring. If there is an old and failing queen, cells may be built in anticipation of rearing a new queen to supersede her. If there is a young queen in the hive, queen cells are not likely to be built until the bees prepare to swarm. If they are in large hives with plenty of room and comfortable conditions they may work contentedly all summer without swarming.

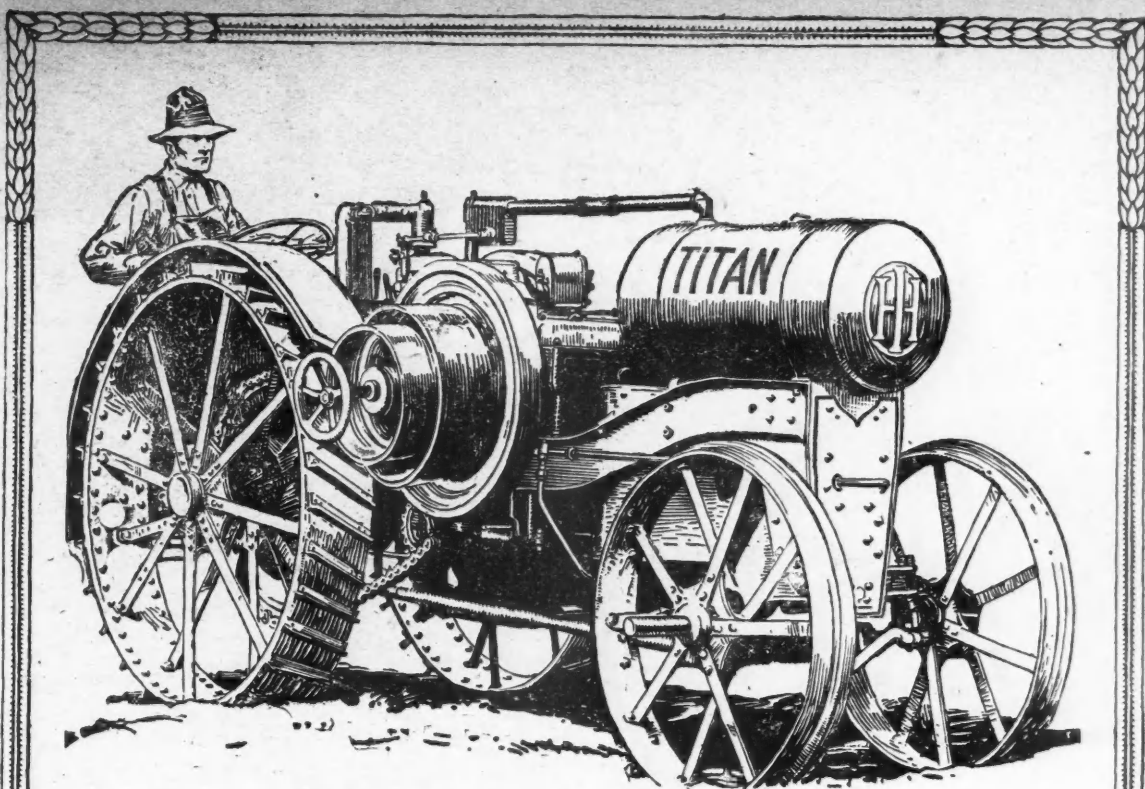
The beekeeper who wishes a few queen cells often removes the queen from a strong colony and gives her a few frames of brood to start a new colony in another hive. The bees finding themselves without their queen will usually build a number of cells and rear several young queens. About ten days after these cells are started they will be ready to remove to queenless colonies. Care should always be used to leave one good cell with the colony to make sure that they will not be permanently queenless.

Unless there are eggs or larvae not more than three days old the bees will not be able to rear a new queen and will eventually perish from queenlessness. Very young larvae are considered to produce the best queens. In any operation of this kind one must always be sure that there are eggs or newly hatched larvae in every hive without a queen. If you have a queenless colony and will give them a frame of brood from another colony they will rear a queen for themselves, unless they have become very weak.

A queen cell looks very much like a peanut fastened to the edge of the comb. Sometimes they are built on the side of a comb but more often on some irregular place or the outer or lower edge.

## AMERICAN TREES FOR EUROPE

On January 15, the American Forestry Association presented 36,000,000 forest tree seeds to Great Britain, France and Belgium, to be used in reforesting the war-devastated areas of these countries. The presentation was made on the Boston Common by Charles Lathrop Pack. Varieties used were Englemann, Douglas and tideland spruce, red, scarlet and black oak, western larch, white ash, white fir, rock and sugar maple and tulip poplar.

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A little later when the belt-power season looms biggest, such essentials as the throttle governor, and the large, wide friction-clutch pulley in Titan 10-20 will demonstrate again the wisdom of your choice.

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(INCORPORATED)

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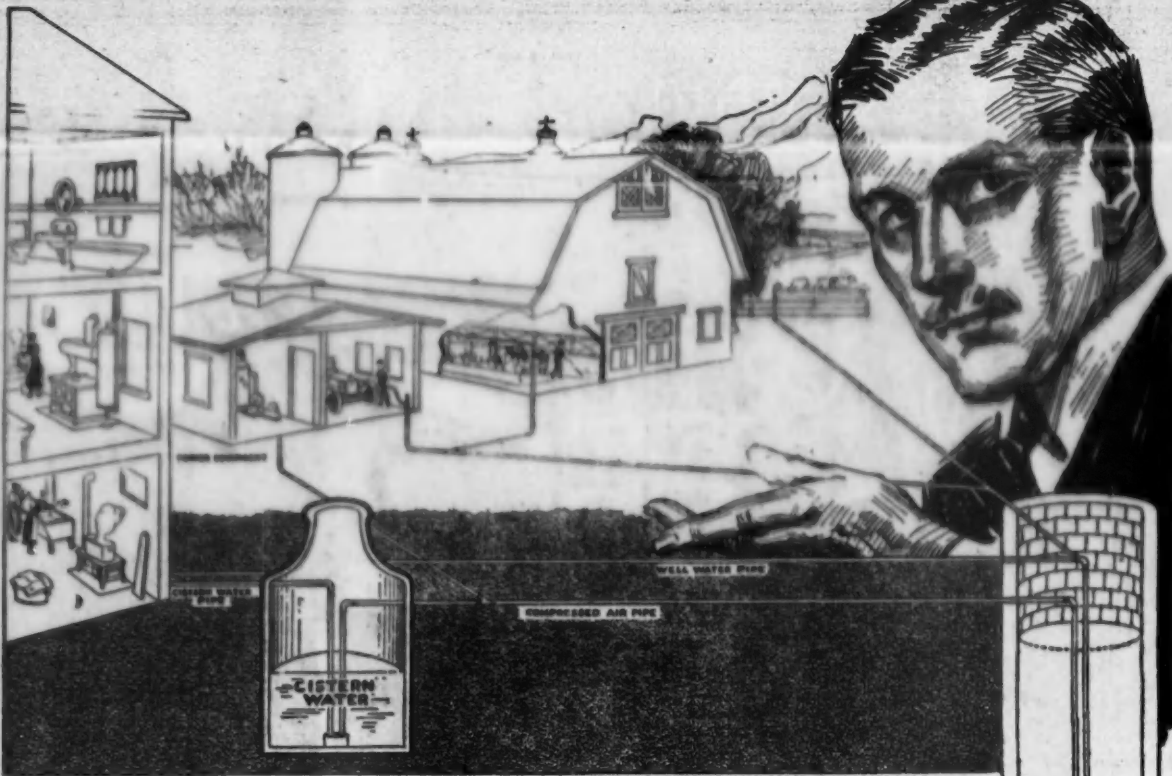
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farmer's kitchen and bathroom; fresh drinking water direct from the well to the house, water in the barn for the cows; electric light in all buildings.

So doing, this expert made a modern farm. He has been trained, and it costs nothing to get his advice. See him. Ask him what he can do for you; let him question you about your needs. If you decide he can help you, tell him to go ahead; and he'll increase the value of your farm and your profits.

We have a representative in your county. If you don't know him, write us.

MILWAUKEE AIR POWER PUMP CO., 902 3rd St., Milwaukee, Wis.



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Send Sprayer No. 453A/MA/40. If satisfactory I will pay \$2.00 in 60 days; balance in 60-day payments of \$1.00 each until price of \$6.95 is paid. Otherwise I will return it in 30 days and you pay transportation both ways.

Name.....  
Address.....

Kindly mention American Fruit Grower when writing to advertisers

## Sprayer Troubles

(Continued from page 26)

welder. He reassembled it himself. Since that lesson he has repeatedly stated that the engine was better than at any other time during the four years that he had owned it. When his neighbors had similar troubles and the trouble-man could not be ready, he was able to fix up their troubles.

We find a tendency among too many men, to begin turning something as soon as their engine stops, without having any idea what they are turning things for, except possibly subconsciously to keep elbow grease in circulation. In the last analysis this desire to turn something is a sort of reflex action due to habit. Some men seem to have an idea that they know more about any engine than the man that designed it.

Observe These "Don'ts" and "Do's". We have given considerable of our time in the past three years to service work. Having in mind some of the things we have learned, we emphatically say:

Don't turn and try to adjust things on a gasoline engine unless you know what the turning is for.

## American Fruit Grower

Don't try to run a gasoline engine without gasoline.

Don't try to run it with water.

Don't use too much or too little cylinder oil. One is as bad as the other. Find out how much is right.

Don't, when things go wrong with your single cylinder gasoline engine, to the best automobile man in town. In ninety-nine cases out of a hundred he makes it worse than it was.

What do you know about the pump? Do you ever look it over to see that all bolts and nuts are properly tightened? Do you let it stand for a time-sulphur solution or other mixture? Do you ever wash the valves? Do you ever oil the faces on exposed bolts that may need adjusting?

What about the tank? Do you ever clean it out and get rid of precipitate? When it stands awhile do you ever clean out the accumulated scale before trying spray?

How do you care for the hose? Do you leave it connected to the engine and full of spraying solution? Do you coil it closely or bend it while empty and then turn on the pressure? Do you ever wash it between sprayings? Do you ever hang it loosely and hang in a cool place to air out?

Do you ever take your fittings apart and clean and oil them? Do you take your spray gun or ordinary nozzle with whirl chamber removed and wash your sprayer thoroughly side and out? If not, why not?

Finally when the sprayer is ready to put away for the season try washing it thoroughly with a mixture of the following proportions: Concentrated lye, one pound; oil (any kind) one gallon; water to make 25 gallons. Use the spray gun for this. Have at least 200-pound pressure. Do a thorough job. Wash off all surplus grease and dirt. You can reduce preventable troubles 90 per cent. "There's Reason" for preventable trouble—carelessness and indifference. Cure, "Use your head."

## THE CHAUTAUQUA-ERIE GRAPE CROP

For the season of 1919 the estimate is made that the Chautauqua-Erie grape belt in New York produced a total of 49,212 tons of grapes, valued at \$4,622,411. Of this amount the juice factories used 27,854 tons while 21,358 tons were shipped out of the district. For their grapes the growers received a grand total of \$4,622,411, which said to be the largest amount of money the crop has ever produced.

The quantity of grape juice produced is not definitely known, but it is believed that all of the manufactured in the grape belt made in excess of four million gallons. According to a survey of the district, the grape acreage is placed at 36,000 of good poor vineyards, and on this basis returns per acre per year for the five seasons was \$77.88. The average returns per acre per year for the years preceding 1919 averaged \$77.88.

## FERTILIZER FOR BLUEBERRIES

By Edward C. Sherman, New York

Your correspondent Myron T. Bly, whose article on blueberry raising appeared in your February issue, was interested in knowing that a mixture of two pounds, 16 per cent phosphate, 1/2 pound sulphate of ash and one pound of sulphate of ammonia makes a good fertilizer for blueberries. This is applied at rate of one pound of the mixture each 30 to 50 square feet.

Manure and ashes, mentioned by Bly, tend to neutralize the acid in the blueberry need. I have seen the blueberry to 11-16 inch in diameter by chemical feeding. I have seen fully transplanted the wild blueberry bush with a good ball of earth in ordinary soil, setting the ball 4 inches lower than where it grew with chemicals.



## TROUBLES OF THE BEGINNER WITH BEES

(Continued from page 24)

weather is warm and the colony of bees has become strong. If half the frames of brood and adhering bees are lifted from the hive and placed in a new one, the bees in the hive without a queen will rear one. However, this plan results in making two weaklings and nearly a month will elapse before the young queen will begin to lay. It is better to let the bees swarm naturally than to practice this plan.

Where queens are reared in anticipation of making increase and a laying queen given to each division as much they will do much better. Artificial increase offers great possibilities to the man who understands fully the difficulties to be met and who will not undertake it except at the right time. However, beginners too often lose their bees in this way and it is safer to depend upon natural swarming until one has considerable experience. Early divisions are likely to be made at the expense of the honey crop.

To fully explain the subject would require far more space than is available here but it is discussed in nearly every good book on beekeeping.

The queen bee very rarely stings.

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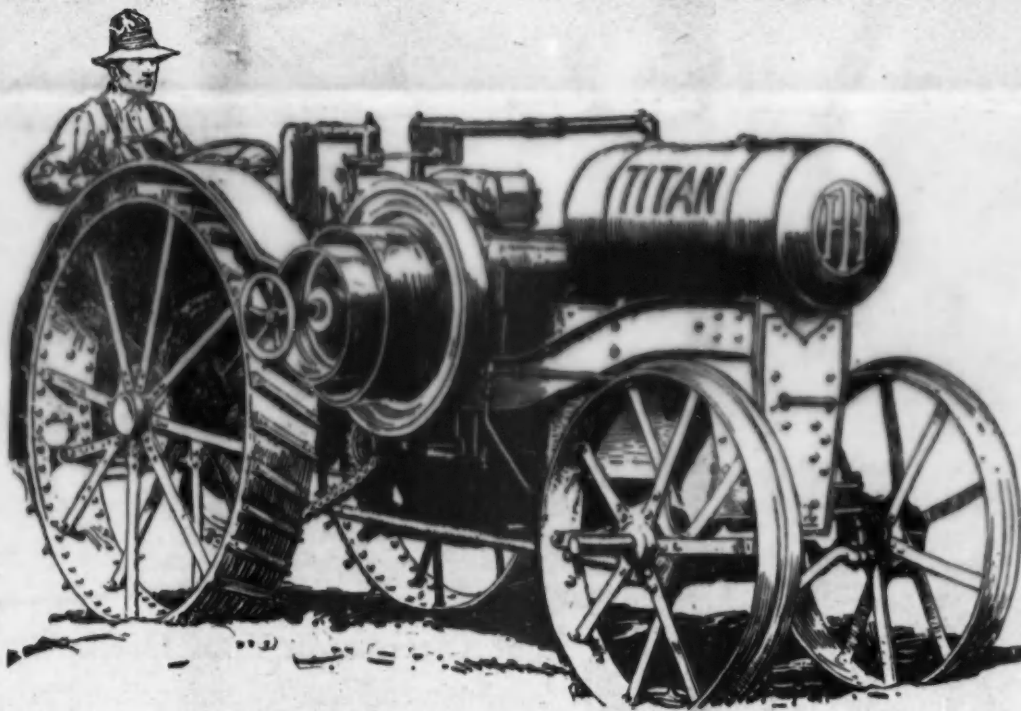
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cost less; outlast three ordinary roofs. No painting or repairs. Guaranteed rot, fire, rust, lightning proof.

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## Don't Use Lead With "Scalecide"

By B. G. Pratt, New York

We often wonder why some of our experiment station workers are not careful or explicit in their recommendations of "scalecide" and other proprietary preparations as we manufacturers are compelled to be. It is too bad that we sometimes have to disagree with their recommendations for our product.

The article on page 34 of the April issue of the AMERICAN FRUIT GROWER about using oil emulsion with lime-sulphur 1-8 as a dormant spray has brought a lot of correspondence. Allow me to say to your readers that combinations of this sort are dangerous. You may sometimes get by with it; then again you may not.

"Scalecide" alone, used as directed 1-15, is the safest and most effective dormant spray and will do everything that lime-sulphur or any combinations of lime-sulphur will do for dormant spraying, and then some. About the only trouble we have about "scalecide" not mixing properly is due to the lime-sulphur and arsenate of lead sludge left carelessly in the bottom of the tanks after summer spraying.

After reading the above article, I thought to reassure myself and make some solutions of lime-sulphur 1-15 also 1-40 with arsenate of lead. I had samples of California oil emulsion, Australian miscible oils, eastern miscible oils and "scalecide." In every instance the oil was thrown out of solution or curdled, both when diluted beforehand or poured directly into the lime-sulphur.

Too much discredit has already been thrown on miscible oils because of improper manufacture or improper use. Follow the manufacturer's directions closely. If new uses are found for miscible oils, the manufacturers will find it out and tell you about them when safe to do so.

Don't use anything with "scalecide" but plain water.

In regard to the use of one per cent miscible oil with arsenate of lead as a codling moth spray, this may be some investigation and some tests. There is some chemical action taking place when arsenate of lead is added to "scalecide;" possibly not as much as there is when lime-sulphur and arsenate of lead are used together. You will recall that when it was first suggested that lime-sulphur and arsenate of lead be used together, the chemists condemned it because of the decomposition of a part of the arsenate of lead, more or less water-soluble arsenate being formed, and this is often one of the causes for leaf injury in summer spraying.

It may be found that a 1-100 "scalecide" combined with arsenate of lead may have a greater fungicidal action than we expect because of better covering properties. It will undoubtedly kill many aphides. But will be purely a matter of experiment and I would advise no grower to spray more than a few trees if they wish to test it out, and we hope that you will notify us or the AMERICAN FRUIT GROWER of any results, favorable or unfavorable.

### NURSERYMEN TO CHICAGO

On June 23 and 24 the American Association of Nurserymen will hold its annual meeting in Chicago, and present indications are for a record-breaking attendance. The past year has been one of the most strenuous nurserymen have ever experienced, and many points have come up, which are certain to make the coming meeting one of great importance to the trade.

There is a rapid increase in the number of dealers handling trucks, due to the quickened interest of farmers.

Paint up the farm buildings.



# Cletrac

TANK-TYPE TRACTOR



Wheels on a track—the Cletrac way—take less power

### Put Cletracs in Your Orchard

The husky tank-type Cletrac stands first in orchard work. Its ideal for every job—plowing, summer cultivation, hauling and belt work.

It is low-set and has no projections. That's why it slips under the branches easily—weaves in, out and around trees without damage. Big broad metal tracks ride lightly over the deep soft mulch and speed can be varied to suit the job.

The Cletrac turns short, gets the corners and has plenty of extra power for the pinches. All moving parts protected against fine dust and a special water air-washer keeps the motor running smoothly.

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for June, 1920

## What About Apple Juice

By Frank Pyle, Kansas

AVE you heard from the federal prohibition enforcement officer yet? You will when he gets around to it. He'll inform you that bulk cider without chemical preservatives may develop one-half of one per cent of alcohol. Should it do so, even after you have disposed of it, you will be presumed to have made and sold an intoxicating liquor. This lets you in for prosecution under the new prohibition law.

This brings a lot of you fellows, who have been making cider out of the ruts, knots and whatnots of your orchards right up to the padlocked gate. Bulk cider is now a dangerous thing to sell.

Perhaps you think you see a crack in the gate, large enough for you to squeeze through. You contemplate adding benzoate of soda (one-tenth of one per cent) to prevent fermentation. Of course, you have to show its use on your label.

Any chemical that prevents ferment also hinders digestion. That lets mamma and the children and the health hunters out as potential customers. Further, the old bunch with the cherry noses and chest slipped down below their belt lines won't buy it more than once. They'll go up against anything from shoe polish to hair tonic, if the kick is there. When the grand effect don't jolt them up, they're off the stuff for life.

### Learned by Experience

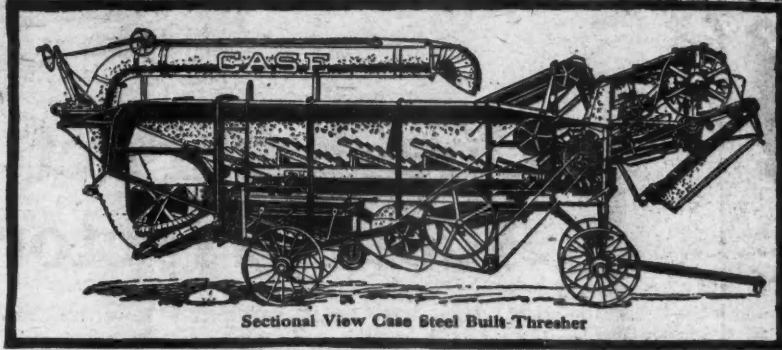
Mr. E. Officer will further advise you that fruit juices not chemically preserved, may be safely sold if sealed in sterile containers. Eureka! We'll bottle it. We'll buy us a patent pasteurizer and go to it. Turn joy loose. Us for the trade of the health cranks, food faddists and family circle. My orchards are located in a state that has been bone dry ever since Carrie Nation bought her first hatchet. I passed through this stage many years ago. Let me tell you some of the things I have bumped up against in the bottled apple juice game. It may save some of the skin on your shins and a bunch of the shinplasters in your unionalls.

The genial salesman from an equipment house sold me a pasteurizer. He gave me a text book written by the house's staff chemist. In it were designs for the proper layout of the plant. At great length he had written how to do it. Temperatures were juggled with great ease and abandon. The apple juice bottler's life was pictured as carefree and profitable as the city-raised man imagines to be the farmer's lot. Government bulletins supplemented the supply house booklet. I followed directions. From press to pasteurizer to bottle the juice flowed in amber glory. It was delicious. All the dealers bought it on sight. It was a novelty. Their customers kicked a little on the price, but tried it out.

Then Satan appeared in Eden. A feather-like growth appeared in some of the bottles. It flourished as I'd like my apple trees to grow. I sent some of the bottles to a chemist. He wrote back: "It is a fungus of the type of *Oidium lactis*." My wife called it common mould. The fungus did not show up in all the bottles, but in enough to eat in the bottom of the bottles and would rise in dark brown flakes when the juice was agitated.

### Factory of Tile and Concrete

The idea of letting anything named "oidium" lick me, rasped my nerves, so I resolved to wage a war of extermination. An apple juice factory of tile and concrete was built. One that would be easy to keep clean. It was equipped with cold and hot water under pressure. Power bottle washers, a better filter and lots of other equipment were added. The next fall, I used only sound, hand-picked apples. They were washed until they shone like a nigger's heel. Scalding and



Sectional View Case Steel Built Thresher



Look for the EAGLE Our Trade Mark

## Case Threshers Save Your Crop

GOOD threshing is the climax of good farming. It's what you have been working for ever since you began preparing ground for seeding. It's just as important as fertile soil, summer showers and harvest sunshine,—and it's up to you. If you do not own a Case Thresher, the next best thing is to employ one.

The Case Steel Built Thresher, in any of the six sizes we manufacture, is the machine of *clean threshing, thorough separation, perfect cleaning and unequalled saving*.

You owe it to yourself to save all you harvest. You can do it with a Case Machine. It successfully handles Rice, Flax, Peanuts, Peas and Beans, Rye, Oats, Barley, Wheat, Clover and Alfalfa, Millet, Buckwheat, Timothy, Orchard Grass, Kaffir Corn, Sorghum, Broom Grass Speltz, Hungarian Grass, Red Top, Blue Grass, Milo Maize, Sudan Grass and Feterita.

After passing the cylinder, where all the grain is threshed and most of it separated, the straw is shaken,—shaken—shaken;—230 shakes a minute. Note the improved straw-rack, the great separating surface and ample space for straw.

Write for catalog of Case Steel Built Threshers showing sizes suitable for the individual farm or for custom threshing on the largest scale.

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THERE are many features to consider in buying a tractor, but here is the **one big fact**, that is too often overlooked.

Every gas tractor—no matter what the design—gets its power by the rapid burning or exploding of gas in a cylinder.

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## ARE YOU SATISFIED?

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Eastern Circulation Representative

Room 808, 318 Main St.

Springfield, Mass.

scrubbing the utensils and building took up about a third of my force's time. Everything had to be strictly sanitary, cost be hanged.

The flavor of the product was much improved. The whistle made of a pig's tail isn't much of a whistle, and the juice from apples is no better than the apples were. A little ferment, as is usual in bulk cider, disguises the green, rot and ground tastes to some extent. In pasteurized juice these seem intensified.

Another year I had less mould. Along in July lots of the bottles began to show a reddish tinge. This increased until the juice became almost black. Again I appealed to the chemist. "A trace of iron probably is the cause of the discoloration." I found that one of the pipes in my hot water line to the bottle rinser was not galvanized. There was the culprit.

So it has been year after year. One by one, I have overcome the troubles, until now the percentage of perfect bottles is very high. But, just as each year I look for new pests in my orchards, so do I look for new troubles in my apple juice factory.

### Careful with the Flavor

The flavor of apple juice is very delicate. It cannot be pasteurized at high temperatures as can other fruit juices, without destroying its fresh taste. This makes it the most difficult of all fruit juices to bottle successfully. The degree of heat which will preserve its flavor and yet destroy all bacteria is almost as uncertain as the dividing line between right and wrong in human conduct.

If you contemplate entering the bottled apple juice business, it will pay you big to get in touch with some successful bottler and pay him whatever he may ask to teach you what he has bought for a price from old man Experience. In the end this course will save you time and money.

During the past fall I had a very startling illustration of this point. A man of experience in other lines of pasteurization, but new in the apple juice business, sent me a bottle of his apple juice. It was excellent. He wrote me that chemical tests had shown his product to be free from all bacterial growth. I wrote for a case of his apple juice. It came in due time and as I write, five unopened bottles are before me. Three bottles have developed vigorous growths of my old enemy *Oidium lactis*.

### Building Up Sales

After the first season the novelty had worn off. Then I found that the selling of my apple juice had become a straight marketing and advertising problem. I was fortunate to have associated with me a young man who is a very capable salesman and I, myself, have a fair knack for advertising. Between the two of us we held the distribution with the local dealers and increased the mail order trade. The dealers' sales increase from year to year, but the growth of this trade is not sensational. It depends very largely upon the advertising and sales effort expended.

The national prohibition law has not made a marked increase in the demand for my apple juice. Of course, there is a great flurry in those sections where prohibition is a new thing, but this will settle in a few years. Some orders from other states have possibly resulted from the apple juice, raisin and yeast recipes. The drinking man is not yet looking for an unfermented beverage. However, the greater part of the present and future of the apple juice business rests with the folks who want a healthful, delicious beverage.

On its merits as such the use of apple juice should grow immensely during the next few years. More people will bottle it. They will strive for trade and the activities of each will help all the rest. Should a number of large concerns enter the field with big advertising appropriations to educate the public to a proper appreciation of the juice's ability to please the palate and improve health, then the demand will grow amazingly.



# In California Berry Fields

By Arthur L. Dahl, California

THE STRAWBERRY season in the east is almost as fleeting as Christmas holidays, and one of the things that appeals more strongly to tourists who come to California for the first time, is the ability to have strawberries served them practically throughout the year.

On account of growing conditions in southern California strawberry culture has reached a stage of development there that permits of large shipments to points far to the east. Just as Imperial Valley lettuce is iced and sent to the fancy hotel and cafe trade during the months when it cannot be grown locally in the east, so the California strawberries are sent, in carload lots, to many distant points between March 1 and December 1, or for nine months out of the year. Further north, the centers of strawberry culture are in the Santa Clara valley, California, and at Hood River, Oregon.

Several factors limit strawberry production in the western states, including moisture, alkali, parasites (called nematodes), transportation and labor. Strawberries require abundant moisture at regular intervals and hence they can only be grown commercially under irrigation. If the soil contains alkali, which is apt to be brought to the surface by irrigation waters, the plants are often injured or killed outright. Usually the first indication of alkali injury is the yellowing of the leaves in the lower spots in the fields, and in selecting a site for a strawberry field, such places should be avoided.

Strawberry plants are particularly susceptible to certain parasites, known as nematodes and gallworms, which thrive in soils where the climate is so mild throughout the year that the ground rarely freezes more than a very few inches deep or not at all. Often heavy losses occur in fields which are planted on infested soil. When the roots of a plant become badly infested, the foliage assumes an unhealthy appearance and may wilt in hot weather, finally dying. In less severe cases the plants, if they are fruiting, may become depleted to such an extent that the crop is of little value.

## The Labor Supply

As the harvesting of strawberries is practically all hand work, the question of labor supply is an important one when growing them commercially, but in the California fields Japanese labor is largely used.

The preparation of land for the planting of strawberries should be complete and thorough. Any neglect or failure in this regard before setting the plants is apt to prove costly later. The soil should be rich in humus, and any natural lack should be made up by the application of manure or by growing and turning under of green manure crops, such as clover, cowpeas, or other legumes. Where sod ground is to be used as a strawberry bed it is often necessary to start preparing the soil two seasons ahead of the planting, especially where white grubs are serious, as they attack the roots of the plants and inflict heavy loss.

To free soil of nematodes for strawberry culture, it is often necessary to starve them out, by keeping the land entirely free of all vegetation for two or three years, or else use the land for growing only such plants as are immune to them. Some of the immune, or practically immune, crops are corn, sorghum, winter oats, rye, millet, wheat, velvet beans, peanuts, and certain varieties of cowpeas, of which the Iron and Brabham are the best known.

By perfectly clean tillage to keep down all vegetation or a proper cropping system for at least two seasons, land infested with nematodes can be brought into a suitable degree of freedom from them to render it fit for planting to strawberries. Then, by taking every precaution against reinfestation from setting infested plants, or from tools that have been in infested soil, land once freed may be expected to remain so for a considerable length of time.

## Irrigating the Land

Where the land is to be irrigated it must be leveled or contoured, and furrows must be provided to convey the water through the fields. Unless the field is level or the slope even, water will collect

in depressions, so that some plants will be flooded, while others will receive too little water. In most sections the berries are planted on raised beds, which vary in width from slightly more than a foot to several feet. If the water percolates through the soil rapidly so that the entire bed is moistened readily, wide beds may be used, while if the soil is of such a type that water percolates through it with difficulty, the beds must be made much narrower. They should be raised above the furrows from 2 to 12 inches, according to the necessity for drainage.

By plowing, grading, and harrowing, the field should be put into such condition that it can be easily irrigated and thoroughly drained, and the tilth should be similar to that desired for a vegetable garden.

In California the time of planting is usually in the late fall or early winter, for if the plants are set in November or December and make a good growth during the winter considerable fruit may be harvested during the following summer.

On sandy soils the plants can be set at almost any time during the winter, but on heavy soils the setting should be done just after the first rains. If the heavy rains occur before the planting is finished, however, the soil under most California conditions is in such poor condition for working that growers generally prefer to wait until early spring to set the remainder.

Two general systems of planting and training strawberries are used—the hill and the matted-row system.

## Systems of Planting

When they are to be grown under the hill system, strawberry plants are commonly set 12 to 30 inches apart in the row, and all runners are removed as they appear.

Under the matted-row system, plants are set from 18 inches to four feet apart in rows, and part or all of the runners which appear are allowed to root. Usually each plant is allowed to make a definite number of new runner plants. These plants are spaced from six to eight inches apart and all others removed as fast as they develop. Spacing is done by covering the tips of the runners with earth as soon as they begin to enlarge.

The question of which system to adopt must be answered to conform to local conditions. Where the soil is heavy and rather impervious to water, narrow beds must be made and the hill system should be adopted. In cases where the soil is penetrated readily to some distance by irrigation water, the beds may be wider and the spaced matted-row system may be used. One advantage of the matted row is that the beds are wider and there are fewer furrows to care for. Both systems, however, are dependent upon intensive cultivation for the best results, and if sufficient labor is available, one or the other should be used.

The hill system is primarily used in the vicinity of Los Angeles, and the plants are set at intervals of one foot in rows two feet apart. In light soils in this same region the plants may be set four feet apart in rows three feet apart. Runner plants are so spaced that two rows 12 inches apart with plants at intervals of six to 12 inches finally occupy each bed. Where plants are set out at a distance of two feet by one foot, 21,780 plants are required per acre.

## Setting Plants

Plants received from a nursery are usually tied in bundles, and good plants have bright, light-colored root systems. If the plants are dry upon arrival, the roots should be soaked in water for a few hours before planting or heeling in. The plants to be set should be protected from the sun and from drying winds while they are being distributed in the field, either by means of burlap or old sacks.

In setting the plants, care should be taken to see that the rows are straight, and the exact place for the setting of each individual plant may be indicated by the use of a marker. If the soil is very mellow, a place for the roots may be made with the hand, but in heavier soil a dibble or trowel may be used. Experts often set 10,000 plants in eight

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That film is what discolors—not the teeth. It is the basis of tartar. It holds food substance which ferments and forms acid. It holds the acid in contact with the teeth to cause decay.

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Dental science, after years of searching, has found a way to combat that film. Able authorities have proved the method by many careful tests. And now, after years of proving, leading dentists all over America are urging its daily use.

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For home use this method is embodied in a dentifrice called Pepsodent. And a 10-Day Tube is sent without charge to anyone who asks.

Pepsodent is based on pepsin, the digestant of albumin. The film is albuminous matter. The object of Pepsodent is to dissolve it, then to day by day combat it.

The way seems simple, but for long pepsin seemed impossible. It must be activated, and the usual agent is an acid harmful to the teeth. But science has discovered a harmless activating method. And millions of teeth are now cleaned daily in this efficient way.

Let a ten-day test show what this new way means. The results are important, both to you and yours. Compare them with results of old-time methods and you will then know what is best.

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## The New-Day Dentifrice

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Get this 10-Day Tube. Note how clean teeth feel after using. Mark the absence of the slimy film. See how teeth whiten as the fixed film disappears. Learn what clean teeth mean.

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Dept. 651 1104 S. Wabash Ave., Chicago, Ill.  
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hours. The plants should be set at the right depth, for if too high or the soil is not sufficiently firm, they will dry out and die, while if they are set too low the crown is covered with soil and the plants may rot.

Where flower stems appear too soon after planting, they should be removed, as the plant will be weakened if forced to bear fruit too early. Where a large number of runner plants are needed, the flower stems should be removed, as this practice will increase the number of runner plants that are made.

When the plants in the matted row are spaced, the strongest runners are

selected. As soon as the tip of a runner has enlarged and a leaf appears, it is covered with soil. Each runner is thus made to take root at a predetermined distance from the parent plant and from adjoining-runner plants.

Tillage should begin soon after the plants are set and should be continued during the growing season. As soon as possible after each irrigation, the irrigation furrows should be cultivated. The soil should be supplied with sufficient manure or other fertilizer and the plants should receive an ample supply of moisture throughout the entire season.



## Give the world the once over

**L**ISTEN, fellows, to some straight talk. Many a man when he gets to be 40, misses something. He may have lots of money and a fine family, but—

He never "got out and saw things." After he gets settled down, it's too late.

Every man wants to see the world. No man likes to stand still all his life. The best time to TRAVEL is when you're young and lively—right NOW!

Right NOW your Uncle Sam is calling, "Shove off!" He wants men for his Navy. He's inviting you! It's the biggest chance you will ever get to give the world the once over!

The Navy goes all over the world—sails the Seven Seas—squints at the six continents—that's its business. You stand to see more odd sights, wonderful scenery and strange people than you ever dreamed of.

You'll work hard while you work. You'll play hard while you play. You'll earn and learn. You'll get, in addition to "shore-leave," a 30-day straight vacation—which is more than the average bank president can count on.

You can join for two years. When you get through you'll be physically and mentally "tuned up" for the rest of your life. You'll be ready through and through for SUCCESS.

There's a Recruiting Station right near you. If you don't know where it is, your Postmaster will be glad to tell you.

# Shove off! -Join the U. S. Navy

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We desire to secure a few subscription representatives in the state of California and the Pacific Northwest, and we can offer those interested an **EXCEPTIONALLY ATTRACTIVE OFFER**. If you are in a position to devote all of your time or a large part of it to securing subscriptions for us, here is an opportunity to earn \$50.00 to \$150.00 weekly. Write at once to **AMERICAN FRUIT GROWER, Chicago**.

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## Missouri's Farm Orchards

The Missouri State Board of Agriculture, in a bulletin, states that Missouri has lost its lead among states in point of number of bearing apple trees because of the cutting down of farm orchards. In commenting on this fact, the St. Louis Globe Democrat belittles the value of the farm orchard and says that only commercial orchards can be made to pay in the state. "The best thing that can be done for the welfare of the orchard business of the state is to have every home orchard in it rooted up and the production of fruit left to the commercial orchardist. It will then be possible to fight the insect pests successfully, to put on the market fruit only and to handle the whole orchard business, from the selection of varieties and planting of trees to the marketing of sound, high quality fruit only, in such a business-like and successful way as to earn for Missouri the reputation she is capable of earning for deciduous fruit, especially apples."

It is indeed to be regretted that the state of Missouri has let her orchard acreage shrink to its present small size. But farseeing, experienced producers are of a contrary opinion. The great newspaper of Missouri, the largest city in regard to the farm orchard. It will not be the best thing for the farm orchard to disappear, neither for the good of the fruit industry of the state, nor for the good of farm population. Instead of riding the farm orchard, the influential publications of Missouri should energetically support the splendid activities of Missouri's State Experiment Station in spreading broadcast the good results that have been obtained from farm orchards that have been given modern intelligent care. Farm boys and girls need apples just as much as city boys and girls. But where do they get apples, when production is left wholly in the hands of the commercial producer?

The Extension Department of the Missouri Agricultural College has done most excellent work in demonstrating that the farm orchard in Missouri can be made to produce not only enough for home consumption, but with a surplus that can be sold at a nice profit. This has given the farm home a year-around supply of high-grade fruit at the cost of production. Missouri has spent large sums of money through the state board of agriculture and agricultural college in demonstrating the value that comes from spraying farm orchards. It is being repeated year after year. Missouri fruit growers, both big and small, know of this work and know its value. But Missouri's business men do not. The full value of the large investment that has been made, and the splendid results that have been obtained will be realized only when Missouri's metropolitan newspapers, business men and commercial organizations wake up to the possibilities of the humble farm orchards on farms, and encourage the owners of those orchards to take care of them in the best possible manner.

The commercial interests in Missouri and all other Middle Western states would do well to encourage the planting and care of an orchard on every farm. It would benefit the farm home, it would benefit the town and the dwellers, and it would stimulate pride in having an abundant supply of home-grown fruit instead of the enormous quantity of expensive fruit that must be transported hundreds of thousands of miles. Instead of encouraging the elimination of the farm orchard, the Globe Democrat would much better to encourage the planting of more farm orchards and secure the interest of manufacturers, jobbers and dealers in co-operating with the farmers in giving those orchards the best of care they should have.

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# The Orchard Home

## A Section for Orchard Women and the Children

### Edited by Mary Lee Adams

#### A State of Mind

THIS expression is sometimes used to describe an irritable and fussed mood, but, as a matter of fact, we are all in state of mind at every waking moment long as we have any mind at all. Most of us fancy that we are in complete control of these states of mind, and so we are to a certain extent. Upright persons can avoid getting themselves into the burglar's state of mind, and no humane person will have difficulty in avoiding the state of mind of a satisfied person that marked the old religious inquisitioner.

This is to say that we are in control of our own state of mind in about the same degree that is claimed for a person under hypnotic influence. Though they may be apparently completely under the control of the hypnotist, yet they could not be influenced to do a dishonest or really wrong thing provided they were normally good and honest.

What are the greatest hypnotisers of our daily life? What things affect our mental state, our outlook upon the world, more than anything else? Are they not health and rest as opposed to fatigue and stress? Watch others and watch yourself as you are to prove this. Some are naturally an optimistic turn while others incline to pessimism, but continued fatigue will turn the normal optimist into a pessimist of the deepest dye, and the worst grrouch will smile when digestion is good and sleep sound and work not exhausting.

You, madam, who have the cares of a household upon your shoulders, are in constant danger of overdoing if you are the type known as "conscientious." Select wisely that it is better to descend times to the unmorality of sweeping the mat under the edge of the rug, rather than wear yourself into that state of mind (state of depression) which makes you anything but a good companion for that rarest of men, those sweetest of children, and persuades you that the world generally is going to the dogs and that nothing is so good as it used to be in the good old days before you got so tired.

#### Are We Deteriorating?

AN INTERESTING discussion took place in our hearing between two very sensible and well-informed friends. The personal experience of one led to the belief, or to be more exact, to the foreboding that we are losing ground spiritually while devoting too much thought to material advancement. The other held the view that, though material advancement was the most obvious outward expression of the times, yet this very advancement was making for spirituality. That while mere money-making was not in itself a very

worthy aim yet, with the best intentions, we could not get very far in either material or spiritual business without it.

A man may be burning with missionary zeal, but without the price of a ticket he cannot carry the gospel to the heathen. Larger sums are being raised today for purely spiritual purposes than ever before. When in the history of the race have so many uplift projects been fostered and carried out? The theory and practice of giving even criminals a chance to restore themselves to right living, are recent and a long way ahead, spiritually, of the old methods of punishment.

Child-labor laws, still incomplete, are definitely in advance of the time when little children wore their lives away laboring in the coal mines of civilized England. Great movements are on foot for lightening the burdens of those who suffer. That we hear of their distressing condition does not indicate that we are going backward, but that our already-established selfishness is being brought to light with a view to correcting it.

Possibly it is because much that was hidden is now being revealed in print so that the general public knows about it, that we feel discouraged as to the future of a people among whom so much is patently wrong. The hopeful part of it is that nothing wrong can be cured until it is known and recognized as an evil.

#### The Cry of Maternity

IT IS horrifying to us to learn that difficulty is being experienced in securing the passage of a bill carrying an appropriation for the benefit of mothers who are financially unable to secure for themselves proper medical attention at the time of the baby's birth. That in America a mother dies every half hour for lack of adequate care and that 500 babies die daily from related causes, appears almost incredible. Yet such, we are assured, is the case.

What wanton waste! not to say—What hideous heartlessness! And we who shudder at this are a part of the government which hesitates to come to the relief of such conditions. Poverty and ignorance appear to be the main causes of this distressing loss of life. In the more remote and sparsely-settled mountain regions, bad roads added to long distances increase the difficulties inseparable from poverty.

The figures obtained through studies of maternity care in rural areas are not merely depressing, they are appalling. Listen to these gathered from five rural counties. In one county 45 out of 85 babies; in another 22 out of 28; in a third 12 out of 15; in the fourth and fifth 10 out of 16 and 10 out of 14 babies died before they were a month old. This mortality is directly traceable to lack of proper care of the

mother before and at the time of the child's birth, and to ignorance as to the right treatment of the child in earliest infancy.

That money is the solution of the evil is shown by the discovery of students of maternity care among the poor, that mortality among mothers was cut in half as the father's income doubled. Leaving out the wastefulness of neglecting what is a nation's greatest asset, leaving out the avoidable pain, illness and death of thousands of mothers, can we stand by unmoved and know of the heartbreaks that must follow in the wake of this loss of infant life? Women everywhere should lift up their voices in protest against this neglect of American mothers.

#### Fighting Summer Pests

SUMMER comfort and health are best assured by the elimination of summer pests. Alas! how many and how mischievous they are. Their names and habits are all too familiar to most of us and, though we have always regarded them with more or less dislike, that dislike has been turned into hatred and dread since the teachers of home sanitation have instructed us in the dangers entailed by their presence. Let us give a hasty glance at an abbreviated list of the most prevalent, together with the particular menace they bear for us and the simplest method of extermination, or at least of abatement of the nuisance.

1st—and worst, Flies. Typhoid fever is a frequent result of their dirty habits and omnipresence. And not typhoid alone, for flies are credited with spreading many other diseases. Screen the house and outdoor toilets from flies. Sprinkle disinfectants over all their breeding places. Keep everything as clean as possible and use fly poisons and fly paper in the house.

2nd—Mosquitoes, which transmit malaria and yellow fever. Pour oil on any nearby stagnant water. Put gold fish or minnows into all pools or ponds.

3rd—Rats and mice—too well-known to need any words of censure. Get the best traps, keep food out of their reach, and use a rat poison. Barium carbonate, spread over food, is very destructive to them and will not harm other animals or children.

4th—Ants that eat up our food, fall into the milk and irritate us generally. Find the colony and saturate it with kerosene. Place sugar and borax or arsenic where ants are most numerous.

Now that the war is over and we are in the midst of the reconstruction period, the needs for extensive conservation of food is just as great as it was two years ago. The cold-pack method has made it possible for housekeepers to can any kind of perishable food and to do it at whatever season the supply is most plentiful and in best condition.





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Now comes the final "New-Way," tested and approved just as the Liberty Motor was. It embodies additional improvements developed since the war. It is, in fact, an entirely new model, amazingly superior.

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- 1—The ending of water cooling difficulties.
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because this multi-purpose, surplus-powered engine brings so much extra value. It does all farm work up to 5 h. p. Larger, stronger parts and bearings insure long service and no break-

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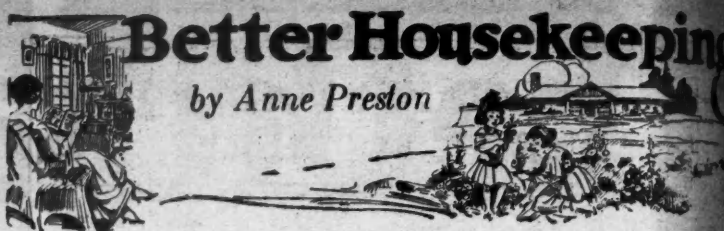


## A Few Facts About CRESTLINE SPRAYERS

The Midget Whale Sprayer after extensive and exhaustive tests is now offered to the fruit and vegetable grower throughout the world. It is well balanced throughout and meets the needs of the large and small fruit grower alike. The Midget Sprayer is so constructed that power is transmitted to the pump by cut gears which operate the pumps at 92 revolutions per minute. This machine is guaranteed to maintain 150 pound pressure. The engine is air cooled and equipped with automatic starter.

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## Better Housekeeping

by Anne Preston

### THE IDEAL HOME-KEEPER

Probably you have noticed that in this department of the **AMERICAN FRUIT GROWER** devoted to better housekeeping, comparatively little is said about cooking in the way of recipes. That is done in another department because, though we realize that the housekeeper maybe, and generally is, the cook, yet a mere cook, however talented in the culinary art, is emphatically not a housekeeper.

No one can keep a house well and not provide her household with savory and healthful food prepared either by herself or others, but good cooking is no more the whole of good housekeeping than the curtain rod is the whole of the window drapery. Though housekeeping, when regarded from the narrow point of view of the kitchen stove is often thought of as monotonous and uninteresting, yet when it is raised to the level of what it can and should be, there are few businesses which include such a wide variety of interests or which make more constant demand upon the intelligence and resourcefulness of the person in charge.

Perhaps there would be less mental confusion in this regard if we adopted the more suggestive term of "Home-keeper," and in our article this month we shall use this term, so full of real sentiment, because what we have in mind to discuss is not the business of the coldly professional housekeeper who, for a salary increasingly high, directs the corps of domestics who serve the rich, but rather that of the wife and mother (or it may be the sister or daughter) who has taken up the noble work of providing a true home for a household.

Even the woman who undertakes to make a well-rounded home for grown-ups, finds her hands full, and as for the house-mother around whom little children play and in whose heart and mind their welfare takes precedence over all considerations, she can have no lack of mental and bodily activity even if her circumstances permit the employment of others to do the actual work.

Perfection in every respect is not given to any human being. One may excel in music, another in invention, but the all-round excellent man or woman is yet to be found. As our Ideal Homemaker must be an all-round person, we cannot expect either to find her or to exemplify her in our own lives. An ideal is something not realized, but striven for, and the striving is what brings us nearer what we aim at. Therefore, in considering the qualifications of the Ideal Homemaker, it is not thought for a moment that any woman can embody them all, but as homemakers we can consider our endless opportunities and abandon forever the idea that our field is narrow and monotonous.

Household economics have developed to such a point that domestic science has become a regular profession, and the graduates in domestic science often take positions as teachers in schools where they can pass their knowledge on to the home-keepers of the future, or as demonstrators and lecturers they aid those who have already embarked in this business. Many, many things are taught the students of domestic science in addition to cookery, and the women who wish to excel in doing their whole duty by their households, learn from these experts, while those who are so situated that this cannot be done through personal contact, read much on the subject in the many first-rate household magazines and special bulletins and keep posted as to the latest developments in all directions.

A few among many things that a graduate in domestic science has learned in addition to cookery and values, are sewing, hygiene, proper clothing—even millinery, though one can easily imagine a really fine housemaker who cannot trim a hat. Just the keeping of the house itself, which are some of the things included. Cleanliness, proper sanitation, ventilation, good light both by day and night so that eyes may not suffer almost needless to mention wholesome cookery with a knowledge of food values and attention to physical needs of old and young.

But is this all? By no means. A house must be attractive to the eye as well as adequate for the bodily needs. A home at its best must satisfy, ever simply, esthetic demands. It can't all have pretty rooms with furniture, but the country housekeepers at least, can for many months of the year keep a bright spot in evidence without expense by an arrangement of fresh flowers. Flowers are the cheapest and chiefest of decorations. Their appeal is universal and their influence refining. The housekeeper will do all she can make the inside of her dwelling charming so that unconscious satisfaction may endear it to the hearts of those who dwell therein.

Where there are children it is of utmost importance that the housemaker be able to instruct them in personal hygiene. This is more and more insisted on, not only as a prevention of many ills of childhood, but as necessary preparation for a useful and healthy life in the future.

Take the subject of care of the teeth alone. Formerly it was thought that all requirement had been satisfied by a visit to the dentist when toothache became unbearable or refused to yield to home nostrums. Now we are impressed by the discovery that many serious ailments come from neglected teeth. A distinguished woman dentist of the West is quoted as saying "90 per cent of all human ailments originate above the chin, and 90 per cent of these could be prevented by dentistry and right living." Every day some fresh discovery of the devilry neglected teeth are up to be brought to our attention.

Can you do right by yourself and your children without a realization of the importance of proper care of the teeth? This is merely one illustration among hundreds of the interrelation of seemingly separate subjects in ideal homemaking.

Then do you think that the housemaker can stop inside of the walls of the dwelling? I should not. If you drove up to the door of a stranger and found the front garden neglected and the back yard littered, would you suppose that a good housekeeper lived inside the house? The homemaker's care must extend to grounds, a flower garden if possible, neatness and order at the very least. The flower garden implies some knowledge of plants and their habits—and there you are—off on an entirely new and delightful track.

One of the surest comments upon the enlarged field for women in the home is the new character of household magazines. Formerly a magazine was a somewhat tasteless affair of insipid love stories and seasoned recipes. But look over the best of them today and you will find that women are offered a rich intellectual feast which is recognized as being legitimately within the scope of their personal interests as housekeepers.



## BEAUTIFYING THE HOME AND GROUNDS

By MARY LEE ADAMS



TO OUR readers we will mail a book on ornamental planting, free upon request. A free, individual landscape plan will be furnished free upon request to any subscriber who sends a rough sketch of the home grounds. Indicate location and size of buildings and extent of area to be planted. State what amount you expect to spend on shrubs, flowers or trees. Address Mary Lee Adams, American Fruit Grower, Chicago, Ill.



The Shrubs and Flowers Join the House to the Lawn in a Pleasing Way.

Often a picture gives a clearer impression than any words can do. Much has been said about importance of shrubbery and of a foundation planting, but probably this picture and plan of well-laid home grounds convey more to you than anything you have read. Notice to what advantage the space has been utilized. The lawn is open,

the big trees give shade, the shrubs furnish a beautiful setting for the house, screen the garage and give privacy on either side. In addition this planting provides an attractive view from the veranda and windows of the house; as the planting plan includes for a goodly number of hardy perennials that make a gay showing of flowers all summer after the spring

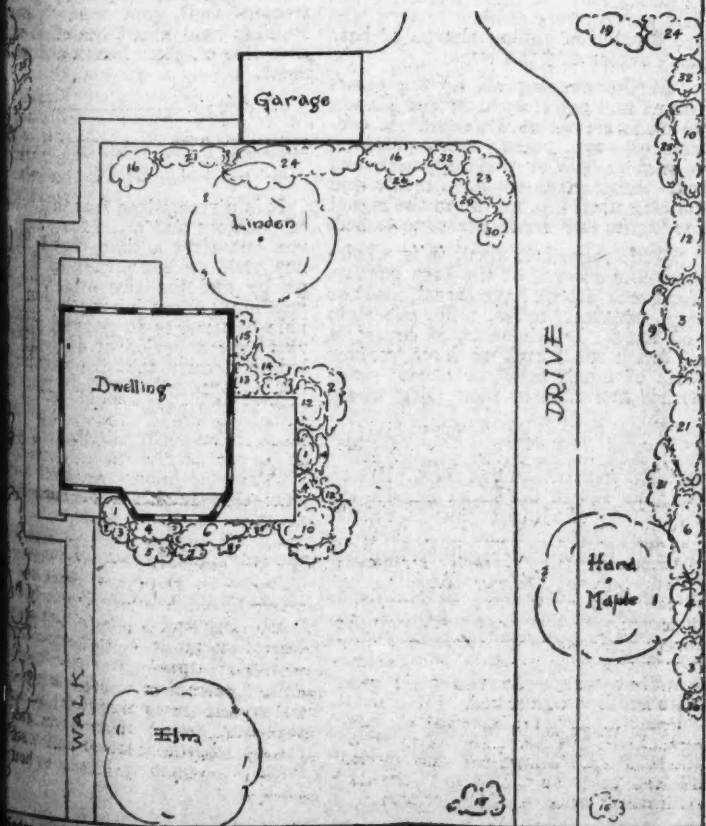


Diagram of the Planting Used About the House and Lawn in the Above Picture.

## With the Victrola and Victor Records you hear the greatest artists just as they wish to be heard

Your interpretation of a piece of music may be in itself a highly artistic achievement, but not if superimposed on the interpretation of a master. It then would be neither one thing nor the other.

The Victrola is equipped with doors so that the volume of tone may be regulated to suit varying conditions. They are not intended to be used in imposing amateur "interpretations" upon those of the world's greatest artists, for that would be to lose the very thing you seek—the finest known interpretations of music.

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Victrolas \$25 to \$1500. Victor dealers everywhere. Write to us for catalogs and name of nearest dealer.



## VICTROLA

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is a trademarked word which identifies products manufactured by the

Victor Talking Machine Company  
Camden, New Jersey

blooming shrubs have lost their beauty.

Foundation and border plantings of this kind are very simple to design, and it goes without saying that they add materially to the attractiveness of the home. What a bare, dreary looking place this would be if all of the trees and shrubs were removed. It would be only a house—just a place to eat and sleep. But the ornamental planting has given it a finish, which means as much in the way of adding attractiveness to the outdoors, as do the rugs, furniture and interior decorations to the inside of the house.

A study of this planting plan is well worth the time it takes, particularly from the standpoint of the composition of the groups of shrubs. Observe that the tall shrubs are next to the house or in the back of the border groups, with low-growing shrubs or perennials in front. There is an endless number of ways in which a planting of this sort can be arranged.

For example, in the eastern states where Rhododendron and Azaleas thrive, a liberal sprinkling of these lovely shrubs in place of some of those in the list. In Florida, in Texas, in California and the Pacific Coast, it would be better by far to use an assortment of plants which are adapted to the soil and climate, and in keeping with the surroundings.

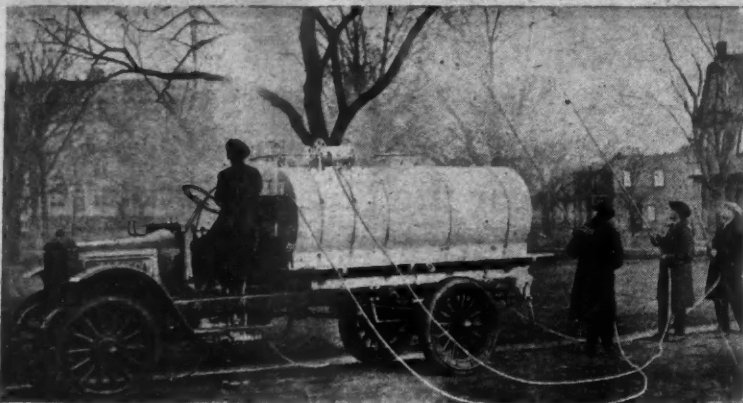
One of the fundamental points to observe in making any kind of a landscape planting, is to use plants suited

to the climate and the environment. Shrubs and flowers that would make a most excellent arrangement for a farm home in Michigan would be considerably out of place in Oklahoma. A grouping that is well suited to a home in southern California would be unsuitable in Vermont, and yet the dimensions and shape of the ground plan might be identical in every case.

### Key to the shrubs and flowers

1. Wiegelia.
2. Anthony Waterer's spirea.
3. Regel's privet.
4. Nanny berry.
5. Hardy phlox.
6. Bridal wreath.
7. Tiger lily.
8. Hollyhock.
9. Hardy boltonia.
10. Mock Orange.
11. Moss pink.
12. Japanese rose.
13. White kerria.
14. Snowberry.
15. Japanese barberry.
16. Thunberg's spirea.
17. Billard's spirea.
18. Common iris.
19. Smooth sumac.
20. Tartarian honeysuckle.
21. Morrow's honeysuckle.
22. Goldenbell.
23. Five-leaved aralia.
24. Elder.
25. Chrysanthemum.
26. Sweet William.
27. Common gailardia.
28. Baby's breath.
29. Festiva maxima.
30. Plantain lily.
31. Coreopsis.
32. Larkspur.
33. Goat's beard.
34. Bleeding heart.
35. Hardy blue aster.





### Learn About This Motor Truck Sprayer

The Republic Orchard Sprayer, designed and built by the Republic Motor Truck Company, Inc., for use on its 2½-ton chassis, is an exclusive product, and the only equipment of its kind now on the market. This sprayer is mounted on a Republic Motor Truck, and its Northern Rotary type pump is driven by a power take-off attached to the transmission. The capacity of the pump is 30 gallons a minute against a pressure of 300 pounds.

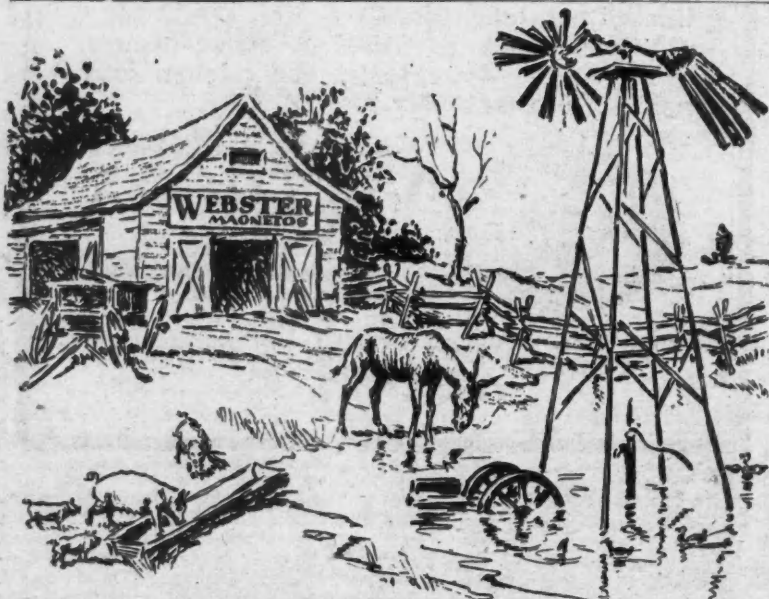
One of the unique features of the Republic Orchard Sprayer is an arrangement of clamps, rollers and levers so that one man by turning a crank, can raise the entire sprayer on rollers and push it off the chassis onto a platform. A truck body then can be rolled onto the chassis and the machine used for regular hauling purposes.

The ability of the Republic Orchard Sprayer to deliver two powerful sprays while being driven over the ground at low speed makes it the fastest working sprayer ever offered to fruit growers. The spray pump operates either while the truck is in motion or standing still, and pressure can be maintained at the 300-pound mark without difficulty.

Let us tell you more about this wonderful Republic Orchard Sprayer and how it will make money for you in your orchard. Address:

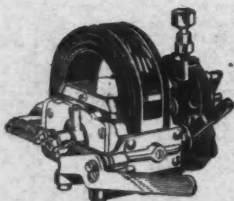
REPUBLIC MOTOR TRUCK COMPANY, Inc., 934 Michigan Ave.

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"We have known of a number of instances where engines with these magnetos (WEBSTERS) on them were submerged in water for considerable periods of time, and when the engines were removed from the water and cleaned up a little, the magnetos were found to be in perfectly good condition."

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There is no substitute  
for WEBSTER ignition

**WEBSTER ELECTRIC COMPANY**  
RACINE, WISCONSIN, U. S. A.

## Women "In the Fruit"

(Continued from page 7)

the fields it has meant everything to our girls to come home to a hot shower and a wholesome meal, served in clean, attractive surroundings. I think we can all understand that workers, well housed and well cared for, have every incentive to be efficient. What these camps have done is to make the drudgery of farm labor attractive."

"Tell me your day's program," I suggested to Miss Phillips.

"Our day in summer begins at 5 a. m.," she said. "At that time a bugle summons the entire camp to roll call and physical exercise. Ten minutes of vigorous, open-air exercise is bound to wake up the sleepy heads and to limber up stiffened muscles. Everyone eats a better breakfast and starts the day in better shape after taking these exercises which are compulsory except in case of illness. Three-quarters of an hour is allowed for showers, dressing and putting tent in order and at 6 o'clock every woman must be in line for breakfast with all her equipment for the day's work including lunch bucket."

"Meals are served in cafeteria style; that is, the women form in line and file past the long serving table where the food is distributed by the kitchen staff. During breakfast the various materials for lunch are handed out together with waxed paper and paper napkins, for each girl prepares her own lunch at the breakfast table. As each girl finishes her meal she must gather up her own dishes and carry them over to the serving table where they are neatly stacked in piles."

"Crew lists are made up the night before and are posted each morning. Each crew goes out in charge of a captain whose business it is to see that all of her crew is ready at the gate when the employer's truck or automobile arrives. Crews vary in size from two to 20 and once this year we sent out a special crew of 45 girls for a grape grower."

"In the fields the women remain in charge of their captain who must maintain order and discipline, assign work and see that the employer's orders are carried out. One of the best results we have obtained has been in the training and selection of field captains and we now have on our lists several very efficient women who are capable of taking charge of both the workers and the work."

"In the evening all of the crews return and get cleaned up for dinner, which is served at 7 o'clock. It consists of soup, salad, meat, potatoes, vegetables, pie or pudding, milk and tea. Afterwards we have music and dancing until 9 p. m., when the signal for 'lights out' sends everyone to bed."

"With regard to food, it is wholesome and always of the best quality. For breakfast we have cereal, meat or eggs, potatoes, coffee, milk, chocolate and toast. Luncheon is, of course, a sandwich meal and we have various sorts of meat, salad or cheese sandwiches and cake or pie. Girls under weight are given milk to take with them for lunch and, in cold weather, each crew takes out a pot of coffee which is heated at noon time. Everyone gets fat in the Land Service except those who are trying to reduce, and they have a hard time doing it. Regular meals and regular sleep are responsible for gains in weight. One girl gained 26 pounds in six weeks and another gained 22 pounds, but the average gain is about eight pounds a month."

"What wages do the girls get?" Miss Phillips was asked.

"Our wage scale in Lodi began at 35 cents an hour with time and a quarter for overtime," she replied. "There was an understanding that this wage should be increased later if the girls' work justified it. Early in the Fall, the wage was raised to 40

cents an hour, but only for women who were able to maintain a daily average. The inefficient were still rated at 35 cents. Of course, grading of workers resulted in immediate speeding up of inefficient workers and it promoted general efficiency. Field captains received cents a day extra; but after a woman has learned to handle fieldwork various kinds and to take complete charge, I think she should be paid cents a day extra. Our average working day has been nine hours, which the rate of 35 cents, amounts to a daily wage. Board at the camp has been charged for at the rate of a day, so you see that the girls at least \$2.00 a day above their wage except on Sundays. We also charge each girl 10 cents a week for the general hospital fund and for which receives medical care and room when necessary."

"In the camp blankets are supplied for women who are unable to buy their own at 10 cents a week. This sum is for the cleaning of blankets. In the camp girls have more than facilities already mentioned, use of an electric iron which enables them to keep their clothes neat as well as clean."

"Most of the women who have come with us have saved money; many have opened savings accounts in banks. Lodi. The Woman's Land Service deducts all wages from the employer's deducts board and pays wages monthly in strict accord with the rules of the State Labor Commission. An exact record is kept of each girl's time, earnings and deductions. In the larger camps, it takes two bookkeepers to handle this part of the work."

Though none of us ever expected to see women doing the hard work of the farm, there are parts of the country where they can help at light work to which they are peculiarly adapted when the "peak" of the harvest season comes. Now they have formed the habit of working "in the fruit," and specialty fruit farmers have learned to depend upon women and it is a big relief to the grower to be assured of a harvesting crew of efficient and trustworthy women—well, you read what Miss Phillips said about the effect of door life on their health and mind."

### IS THE STRAWBERRY RUN OUT?

It is a recognized fact that runs of potatoes and other farm crops run out after a time, that is, they do not yield so bountifully as they go by and the size of the tubers is smaller. After having had considerable experience in growing strawberries over a period of 40 years, I led to declare that the strawberry was not so productive of late years as it was in the past. There do not seem to be so many pickings of berries. The crop is short in season and bulk.

If this suspicion of mine is founded it would indicate that possibly we should go back to the varieties grown 10 or 20 years ago, such as the Jessie, Brandywine and Gandy.

Some of these notable old varieties were great and continuous yielding fair crops of fruit under ordinary culture or with neglect, where the rows were closely together, but of late years varieties grown seem to fall in the least provocation. I mean by the first picking is fairly good and berries good sized, but most of the decline in size and in quality season advances.



# New Books of Interest and Value

## MANUAL OF GRAPE GROWING

By U. P. Hedrick

Professor Hedrick has here offered the public the fruits of his long experience in the study of the grape. It includes the practical questions of site, cultivation, planting, training, etc., as well as marketing problems. The diseases of the grape are treated concisely and injurious to the grape are given. There are full descriptions of leading commercial and amateur varieties, and many photographs of excellence. The growing of the grape in California is given special section. If you wish to per- your knowledge of the propaga- manipulation and marketing of you cannot do better than to Prof. Hedrick's book. Published by the Macmillan Com- New York. Price, \$2.50.

## AMERICAN HONEY PLANTS

By Frank C. Pellett

Keepers are many and mill be for the advantages of beekeep- becoming more widely known. who are interested in bees or aping, this will be a particularly me book. Mr. Pellett's name is known and loved, and conse- every one who opens this book is in the expectation of a real this they will not be disappointed. beautiful photographs, 155 of would alone make a specially ing, illustratel course of study the flora of the United States. added to Mr. Pellett's easy and active text, provide for bee- a fund of information which can hardly afford to be without. the author, "In many places rences or absence of a single determines whether or not bee- is worth while." This shows important it is to know what plants are and where they grow be made to grow. Published by American Bee Journal, tion, Ill.

## OUTAPIARIES

By M. G. Dadant

There is something so inherently ing in bees, that books about are always remarkably readable. more so than Mr. Dadant's re- work "Outapiaries." In it he up consideration of this en- line of beekeeping and de- it fully and clearly. For those may not quite understand what tinary is, we may say that it is which the owner establishes away home. The number of colonies can be maintained within a cer- radius, varies with the locality abundance of nectar-producing hence the need at times, to the apiaries over a compara- wide area. One who con- going into the business of bee- on this increased scale, will materially helped by reading aparies." It is an admirably ed book of 124 pages including a large number of excellent illus- Published by American Bee Journal, tion, Ill.

## BOOK OF MODERN BRITISH VERSE

Edited by Wm. S. Braithwaite

One on opening this little volume expect to come among the giants or even to be in the society of mid-Victorians, but that does not will not be in very good society it, even though the form of ex- on may be different from what others and grandfathers most ad- in verse. any of the poems are delightful the modern note is distinctly re- ing. It will not take long to re-

assure ourselves as to the persistence among poets of a great love of nature. A large number of the poems express this with much sincerity and charm. Moreover, and we hope this confession may fail to deter a possible reader, there are few lines of which the mean- ing is not perfectly clear, so that while "modern" is a word that fits well, "cryptic" is one that need not be dreaded in this satisfying book.

Published by Small, Maynard & Company, Boston. Price, \$2.00.

## THE SIGN OF THE SWAN

By Ambrose Elwell

This is the story of Ambrose Elwell, born on Christmas day, 1848, on York's Island off the coast of Maine. It would take no fairy Godmother to predict at the christening of a boy born at such time and place, that his life would be full of hardy adventure, for it was almost a matter of course that Elwell should follow the sea after the man- ner of the grand old sailors of Maine. But his individual life supplied an un- usual abundance of personal hazards, and in fascinating contrast to these, there weaves through the wilder inci- dents of the story, a tender romance which proves most sweetly that love can make life worth while even in the darkest hour. The book is dedicated to the sturdy men and women of Maine whose strength and virtues are most admired by the author.

Published by Small, Maynard & Company, Boston. Price, \$1.60.

## APPROVED VARIETIES OF FRUITS

The California Nurserymen's Bud Selection Association recently organ- ized plans on doing for the other fruit interests in that state just what the bud supply division of the California Fruit Growers' Exchange has done for the citrus industry. It plans to con- centrate on such varieties of each fruit as are in greatest demand for the canners and shippers, and elimi- nate the bewildering list of varieties that are of least value.

In order that some definite infor- mation might be had regarding the suitable varieties of certain fruits, the associate and representative canners have just had a meeting in which the canners indicated their preferences for varieties. Among the clingstone peaches all white varieties were elimi- nated because of their tendency to take on an overripe and displeasing appearance in the can. The approved varieties were as follows, in the order of their respective popularity among the canners: Phillips, Tuscan, Pelora, Sims, Peak's, Libbes, Albright, Levy, McDevitt. Because of their similarity to Pelora, the varieties Hauss and Johnson were eliminated, and Orange was dropped because of its similarity to Albright.

In the freestone group Lovell stood at the top, followed by Muir, Elberta and Salway. For canning purposes it was recommended that Foster, Craw- ford and J. H. Hale be dropped, but that they be retained as shipping peaches, but the vote stood 85 to 15 for clingstone peaches for canning purposes, thus practically confining the freestone varieties to the shippers.

Among apricots Blenheim, Royal and Tilton were the popular sorts, and the recommendation was made that Moorpark, Routier's Peach, Hems Kirk and Large Early Montgamet be taken out of coming catalogs.

For canning purposes the Royal Ann received the most votes, with as- sorted black varieties next, followed by Rockford and Governor Wood. Ship- ping varieties were strongly recom- mended because of the greatly in- creasing popularity of them on eastern markets. Montmorency was recom- mended as the sour cherries most suitable for increased planting in Cal- ifornia.

## Let This Free Booklet Save Money for You



Here, Mr. Grower and Shipper of Fruits and Vegetables, is a helpful booklet that you can't afford to overlook. It shows, by photographs and diagrams and descriptions, how to pack in cars to assure safe delivery of your delicate fruits. Shows how to construct gates, to brace loads, how many tiers high to pack different fruits and vegetables, many methods of providing ventilation, protection to the fruit, delivery in top-price condition.

## The Universal Package

is the ideal package for shipping all fruits and vegetables. Light, convenient to handle and close, it has strength to deliver safely, in a neat, attractive way. With the centerpost additional strength is provided. The tremendous increase in use of this package last year is the greatest evidence of its superior- ity as a practical, money-making shipping package.

### This Coupon Brings Booklet!

Simply write your name and address on the lines below and mail back to us today. A copy of this helpful booklet "How to Load Cars" will be immediately sent you.

My Name..... I have..... trees

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## Practical and Standard Agricultural Hand Books

Recommended by the AMERICAN FRUIT GROWER

Every fruit farm should have a library of well selected farm and garden books. Below we give a list of such books by recognized authorities in their respective lines and no fruit farm home should be without at least those relating most directly to their particular farm.

They may be had through the AMERICAN FRUIT GROWER at the prices named, postage prepaid.

**THE PRINCIPLES OF FRUIT GROWING**..... By L. H. BAILEY  
A standard guide to the practice of fruit culture, treating fruit growing from the practical business standpoint..... (New Edition, illustrated) \$2.50

**MANUAL OF AMERICAN GRAPE GROWING**.... By U. P. HEDRICK  
A popular and practical treatise on grape growing in North America..... (Illustrated) \$2.50

**PEACH GROWING**..... By H. P. GOULD  
Here is a book which gathers into one compact, fully illustrated volume the principles and practice of successful peach production..... (Illustrated) \$2.00

**CITRUS FRUITS**..... By J. E. COIT  
An illuminating account of the up-to-date methods of raising oranges, lemons and grape- fruit..... (Illustrated) \$2.00

**BUSH FRUITS**..... By FRED W. CORD  
A revised and rewritten edition of an old standard authority stressing the successful culture of currants, gooseberries, blackberries, raspberries, dewberries and blueberries..... (New and Revised Edition, illustrated) \$2.00

**STRAWBERRY GROWING**..... By S. W. FLETCHER  
A clear outline of the present commercial value of the strawberry, taking up all the im- portant points in considerable detail..... (Illustrated) \$2.00

**MANUAL OF FRUIT INSECTS**..... By MARK V. SLINGERLAND  
A history of the insects which attack fruits with suggestions for prevention and exter- mination..... (Illustrated) \$2.50

**PRUNING MANUAL**..... By L. H. BAILEY  
Revised and reset, this book incorporates the results of fifteen years of experience in prun- ing in all its varied phases and is thoroughly handled (Revised and Rewritten, illustrated) \$2.50

**THE NURSERY MANUAL**..... By L. H. BAILEY  
Founded on the nursery book, but entirely rewritten and illustrated. This book is a complete guide to the multiplication of plants..... (Illustrated) \$2.50

These books are handsomely and durably bound in cloth and illustrated. We will pay the postage or express charges, so just send the net amount as listed for whatever book you want, and if there are any others you desire not listed above, ask us about them.

## American Fruit Grower

State-Lake Building, Chicago



## MYERS COG GEAR SPRAY PUMPS Are Easy To Operate



For perfect maturity and increased yields of all fruits and vegetables, destroy the numerous enemies which attack them by spraying early and often with a MYERS SPRAY PUMP. Here is real protection — the kind that produces results and pays for time and effort expended for MYERS SPRAY PUMPS have been developed to meet the needs of all fruit growers and gardeners, and others who raise fruit or vegetables on the home lot. Large capacity Power Pumps and complete Power Rigs — Medium Capacity Tank and Barrel Outfits — Small Capacity Bucket Pumps and Atomizers, and a complete assortment of Nozzles and Accessories make up the Myers "Honor-Bilt" Line. Speed, ease of operation, correct and economical application of mixtures, better construction throughout with many patented features are Myers Talking Points.

New Catalog N5, SP20 shows the line and gives valuable spraying information. Mailed free to anyone — drop us a card.

Myers Handy Portable Sprayer has Cog Gear Pump, Heavy Galvanized Tank—holds 12½ Gallons—Steel Frame, Single or Tandem Wheels, 15 ft. Hose, 8 ft. Extension and Vermorel Nozzle, suitable for inside or outside spraying.

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NO. 150 ORANGE ST. ASHLAND, OHIO.

## Get this Home Canning Outfit as a PRESENT

YOU can make or save money by using or selling Burpee Home Can Sealer and Can Saver. Cans all vegetables, fruit and meat the modern way (no solder). Easy to operate, easy to sell. Cuts the H. C. L. Let us tell you how to get yours free. Write for agents' plan. Be the first. Burpee Can Sealer Co. 215 A West Huron Street, Chicago, Ill.

## Cooler Summer Cooking

Beat the high cost of living. Spend fewer hours over a hot stove, have better cooked food. National Cookers cook a meal over one burner in 40 minutes. Write for our interesting booklet.

## Canning Made Easy

Turn waste into profit—can everything the Cold Pack way in a National Canner. Booklet free. Northwestern Steel & Iron Works 802 Spring St. Eau Claire, Wisconsin

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Flooded anywhere. DAISY FLY KILLER attracts and kills all flies. Neat, clean, ornamental, convenient and safe. Made of metal, can't spill or tip over; will not soil or injure anything. Guaranteed. DAISY FLY KILLER at your dealer or 5 by EXPRESS, prepaid, \$1.25. HAROLD SOMERS, 150 De Kalb Ave., Brooklyn, N. Y.

How to Prevent Loss in Chicks—how to prevent dead chicks in shell; get bigger hatches; stronger chicks; more fertile eggs; prevent bowel trouble; dead chicks and to promote growth besides how to get big egg yields and select layers and slackers is all explained in a new bulletin which will be sent free to all who write Professor T. E. Quisenberry, of the American Poultry School, Department 487, Kansas City, Missouri.



# For Our Boys and Girls

## ANABEL AND THE FAIRY

By Edith Lyle Ragsdale

The day was very warm and Anabel's basket of clothes seemed to grow heavier and heavier. It certainly was strange to see so small a girl tugging away at such a big load.

Anabel's face grew very red and the hair about her temples grew very moist and rolled up into the cunningest curls, for she was a very pretty child even if her dress was patched and she had to carry the clothes basket back and forth. When her papa was alive she always wore the prettiest dresses and never thought that some day she would have to go ragged and barefoot and carry home Mrs. Richlady's wash. But Anabel was good as well as pretty and she never complained even though she could not have good times like she used to. She just went along and did her best and was a perfect little ray of sunshine to her mother.

Of course, there were times when she wished, oh, ever so much, for the parties and good times of old. But she kept her thoughts to herself and when she was saddest she sang the merriest.

But to go back to Anabel and her basket.

"Hello," cried a girl about as big as she, "what are you doing here?"

Anabel lifted her head and replied: "I am resting and looking at the May-pole."

The other girl laughed: "A lot of good that will do you," she said. "I guess you think you'd make a fine looking Queen of the May."

The big tears slid from beneath Anabel's lids and rolled down her cheeks, "I am not," she denied. "I know that I can't be Queen of the May because I haven't fit clothes. But I was just sitting here thinking that I would like to see the rest of you girls, all dressed up and looking so pretty."

The other girl laughed and danced away, calling back: "My dress is of pink silk with lace and the loveliest sash—and I've got pink stockings and slippers to wear with it."

Anabel sighed and started to lift the basket. "Wait a minute," called a voice, the queerest voice the little girl had ever heard. In surprise she turned and looked this way and that. But she saw nobody and again she lifted on the basket. "Anabel," scolded the voice, "why don't you mind me? Don't you see that I am not fairly seated yet?" Again the little girl paused and looked about her. But she failed to see anyone. "If you please, Mam," she said, "I'd like to know where you are." A funny little laugh answered her. Then: "Here I am, on the edge of the basket."

Anabel looked, rubbed her eyes and looked again. "Well, I never!" she exclaimed. "Of course you never," came the little squeaking voice. "Few persons have and you should consider yourself very fortunate, indeed, to be permitted to see a real, live fairy."

"Are you—are you a real, live fairy?" gasped Anabel. "I certainly am," came the answer. "Don't you see me and hear me?" Anabel nodded, she was too surprised to speak.

The fairy sat on the edge of the basket and kicked her heels. She wasn't near as big as your thumb and she was dressed in the most lovely gown, made of a spider's web and sprinkled thick with star dust; and

every time she kicked her heels the star dust glittered like diamonds. She wore the prettiest little boots upon her tiny feet, red boots, they were, laced up with silk from the silkworm's house and on the end of each lace was a tiny harebell that tinkled with every kick of her feet; in her hand she held a wand which the King of all the Fairies had gotten especially for her in the Gold Fields of Alaska.

"I do see and hear you," said Anabel after she had looked at her companion a bit. "But, I thought the fairies were all gone."

The little lady on the edge of the basket laughed. "We are never gone. It is our business to stay here on earth and watch over the good little boys and girls."

Anabel sighed: "I ain't always good," she confessed. "Sometimes I get to wanting things which I've no right to expect."

The fairy nodded, "That isn't being bad; we all—fairies, children and grown-ups, do that. It's nature." She spread out her gauzy wings and then folded them up, a habit, Anabel soon learned, of the fairy whenever serious or deeply impressed. "You were wanting something very badly just as I came up."

Anabel's face grew very red and she dropped her eyes, "Yes, Mam," she murmured.

"For goodness' sake don't 'Yes, Mam' me!" testily exclaimed the fairy. "My name is Fairy Star-Heart and I hope you will remember to address me by it."

Anabel nodded meekly, "Yes, Ma—Yes, Fairy Star-Heart," she hastily amended.

"That's better. Now, about what you were wishing. You wanted, down deep in your heart, to be the Queen of the May, now, didn't you?"

Anabel's downcast eyes answered her.

"But you have no clothes—isn't that it?" Again the little girl nodded. "Well, that's too bad," said Star-Heart, "for I'm sure you, with your rosy cheeks and brown curls, would be the prettiest girl there. But we'd better be going, your mother will want this wash."

(Concluded next month.)

## JOHNNY APPLESEED

Something is being said about establishing a centennial for one of America's heroes. I refer to Johnny Appleseed, who about a hundred years ago sailed down the Ohio river with bags of apple seed which he planted in the openings of forests. In succeeding years this national hero returned to the scenes of his early planting of apple seeds and pruned and looked after the welfare of the trees which had been produced, barricading them as far as possible from the deer and other destructive animals.

Johnny Appleseed, correctly named Chapman, was beloved by the Indians who feasted upon the apples that grew upon the trees he had produced. The early settlers of Ohio also were nourished by the product of Johnny Appleseed's self-sacrifice and benevolence. Hats off! Too much cannot be said or done for Johnny Appleseed. He was one of the most remarkable characters of a selfish world.—C. A. G.

The Charlotte, N. C., Observer, has been making airplane delivery service to nearby towns.

## About Log Saws

WITHOUT doubt the most practical saw for cutting up logs and clearing land, is an improved outfit advertised by the WITTE ENGINE WORKS, Kansas City, Mo. Aside from being a simple, practical outfit, with many decided improvements over old-style saws, the WITTE Rig is provided with a specially designed Lever Controlled Friction Clutch, which gives the operator absolute control of the saw while the engine is running. This Friction Clutch is easily operated by hand lever conveniently located, and in the rig we know of having this valuable improvement. With the hand lever safety control, the engine can be started with saw idle. When ready to start saw, the clutch is gradually pushed in, until saw is running at full speed, or at the rate of 300 revolutions per minute.



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No other Rig has this improvement  
Saw can be stopped instantly by pulling lever, or will stop automatically if saw jams. Rig can be safely moved with engine running and saw at rest. This positive safety control for starting and stopping saw, combined with the "Arm Swing" Fast-Cutting movement of the WITTE High-Grade, High-Tension Ignition Engine, powerful enough to cut through any size user. Complete information of the WITTE Drag Log Saw, also WITTE Portable Power Saw, and a complete line of engines in H.P. with battery or BOSCH Magneto, desired, may be obtained free, postpaid, from WITTE ENGINE WORKS, 2148 Oakland Ave., Kansas City, Mo., or 2148 Empire Bldg., Pittsburgh, Pa. This is the largest exclusive factory in the U. S. selling direct, has a record of 35 years continuous success, and every line or outfit made by them is sold on the time guarantee. If you need an engine or fit for any purpose, write for factory price.



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Oliver Oil-Gas Burner  
is an attachment that makes any gas or heating stove a gas stove. No wood. Cooks and bakes better than wood in the same stove.  
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This service has been established for the convenience of the thousands of American Fruit Grower readers. Join the League and let it help you. The purpose of the League is not to supplant the family lawyer. It is to supplement the local attorney. If there is a legal inquiry about which you are in doubt write to this department.

## Not Paid for Work Done

Q.—I did some work on an estate near here last fall after the fruit season for which I have not yet been paid. The work consisted principally of handling materials and supplies used in the erection of a house for the owner of the property. What is the nature of a mechanic's lien and would I be entitled to a lien against his property?—L. L. H., Corning, Cal.

A.—A mechanic's lien is a species of lien created by statute in most of the states for the protection of persons who have performed work or furnished materials in connection with some building or structure. The purpose of the lien is to secure priority of payment to one performing the labor or furnishing the materials. You would in the above circumstances be entitled to a lien against the property and in case of failure to pay you for your labor with that of your teams you could enforce your lien and recover the amount of your claim.

## Was the Land Sold?

Q.—I gave to my uncle a quitclaim deed to my farm to secure him against a loan of \$6,000 which he made to me. Now he gave me a contract whereby he agreed to sell back to me the farm any time within five years for \$6,000. But in case I fail to pay up the interest or yearly payments on the \$6,000 he loaned me then I forfeit the right to buy back the farm. When this deal was made I looked on it just as a mortgage. Some of my neighbors now tell me that it was an absolute sale and that my uncle can't be compelled to sell the place back to me. This becomes very important to me now that the price of land has gone up so much.—C. P., Taylorville, Ill.

A.—Whether a deed to land, executed with an agreement to recovery on stipulated terms, shall be construed as a sale or as a mortgage depends upon the actual intention of the parties at the time, and this intention is to be gathered from the facts and circumstances attending the transaction and the situation of the parties as well as from the written evidence of the contract between them. Where a pre-existing debt on the part of the grantor was not intended to be cancelled by the transfer of land, but only to be secured by it, the conveyance should be held as a mortgage. Under the circumstances you set forth you are warranted in regarding the transaction as a mortgage.

## Mortgage and Right of Way

Q.—I have owned a mortgage against a piece of property here for three years which does not expire until next year. In a deed to the place executed subsequent to the mortgage a right of way is reserved over the land. Is this right subject to my mortgage?—T. C., Sharon, Pennsylvania.

A.—The mortgage is prior and the right of way is subject to your mortgage.

## Share in Estate

Q.—My aunt died in California leaving an estate without having made a will. She left no children and her husband died two years before her. There are no brothers, sisters or parents of the deceased living. The only heirs are nine nieces and nephews of the deceased, children of three deceased sisters of my deceased aunt. I am the sole survivor of my mother's family. There are three heirs in one family and five in another. Would the estate be divided in three and would I be entitled to one-third of my aunt's property?—S. M., Berkeley, Cal.

A.—Under the California laws, the lineal heirs as above described would share equally and you would be entitled to one-ninth of the estate. (Continued on page 42)



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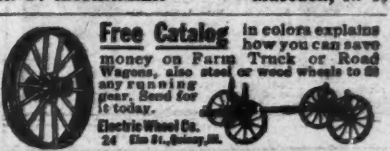
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As may be expected, there is an in-  
creasing interest in the use of cider-  
making machinery. In the years to  
come, on account of prohibition  
largely, the apple will be relied upon  
for the production of drinks of var-  
ious kinds. The ingenuity of mankind  
is exercised toward securing some-  
thing that will stimulate even though  
it stimulates mildly, as does cider in  
its early stages or in its carbonated  
state, or when otherwise prepared to  
quench the thirst of humanity. The  
fact is that cider, grape wine and  
other fruit juices are about the only  
things left in this country that can  
be made into drinkables.

Not enough has been made of the  
apple so far in the history of this  
country in the manufacture of high-  
grade cider. The French bought our  
cores and other refuse and made  
it into champagne and often sent it  
back to us thus labeled. It is possible  
to make one of the most tempting  
beverages known to man from cider  
and yet not have it intoxicating. I do  
not doubt that in the years to come  
this result will be achieved and still  
the product sold at a reasonable or  
low price.

No one can doubt that a new era  
exists for profitable fruit growing,  
inasmuch as the fruit is to be used for  
new purposes and one of the most im-  
portant is for beverages. C. A. G.

## American Fruit Grower Protective League

(Continued from page 41)

### When Mortgage Is Assigned

Q.—Where a mortgage gives the  
mortgagee the privilege of electing to  
declare an entire debt due upon the  
failure of making interest payment  
when due and the mortgage is assigned  
to someone else, does the new owner  
of the mortgage have the same right  
against the mortgagor?—J. M., Kanka-  
kee, Ill.

A.—Yes, the assignee of the mort-  
gage has the same right. He is en-  
titled to all rights granted under the  
mortgage.

### What Law Applies?

Q.—I mortgaged my farm in Montana  
to a Kansas City Bank. What law  
governs the mortgage, Wisconsin,  
Missouri or Montana?—J. N. O., Euclaire,  
Wisconsin.

A.—The law of Montana governs  
the matter because the land is situ-  
ated in that state.

### Is Railroad Liable?

Q.—Is a railroad company liable for  
loss suffered by a shipper when the  
negligence is clearly that of the com-  
pany? Last summer I shipped some  
lard and due to the negligence of the  
agent the lard was not put into a re-  
frigerator car as was the custom.—  
C. R., Beatrice, Neb.

A.—The company would be liable  
for loss suffered in the way above  
outlined. It was the business of the  
agents of the railroad to see that the  
goods were shipped properly.

### Loaned to Merchant

Q.—I loaned a local merchant \$1,000  
to help him carry on his hardware busi-  
ness, but he has now become insolvent.  
Just before closing up his business he  
sold several thousands dollars' worth of  
machinery that he had on hand and  
paid the money to a brother-in-law  
from whom he had also borrowed  
money. Can he do this legally?—  
P. N. A., Greenville, N. C.

A.—The transfer of property to a  
creditor with intent to prefer such  
creditor over his other creditors con-  
stitutes an act of bankruptcy. No  
creditor can obtain any such prefer-  
ence as outlined and the property will  
be taken and applied in the payment  
of all bona fide creditors.

### Failure in Marriage Contract

Q.—Where one party refuses to carry  
out the contract of marriage must the  
other party wait until that party is  
married to someone else before suit  
can be commenced?—C. T., Holly  
Springs, Miss.

A.—No. An action may be com-  
menced as soon as it can be shown  
that the other party has no intention  
of performing the contract.

### Failure to Deliver

Q.—Some time ago I ordered a spray  
pump with the understanding that it  
would be delivered by April 1st, but it  
has not yet come. Do I have to accept  
the pump?—T. C., Rensselaer, N. Y.

A.—If the contract called for de-  
livery by April 1st and no delivery  
was made, the deal is off and you do  
not have to take the pump.

### Fire on Railway

Q.—I lost several hundred dollars  
worth of grass and timber in a fire  
which originated on the right of way  
of an electric railroad. I have proof  
that the fire was burning along the  
track and on the land of the company  
before it entered upon my property.  
Can I recover damages from the rail-  
way company?—J. N. R., Wood county,  
Ohio.

A.—The mere fact that the fire  
originated on the right of way of the  
electric would not enable you to re-  
cover damages. In order to do this  
you must prove that it was caused by  
the company or its agents. If you  
can prove that the fire originated by  
workmen of the railroad burning de-  
bris along the track, or something like  
that, you can recover, otherwise not.

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Copyright 1920, by The Goodyear Tire & Rubber Co.

# Does Your Spray Hose Meet These Tests of Service?

In the spraying of trees, strong solutions are, of course, often required; and in order to kill the larvae, particularly those on the top branches, high pressure is absolutely essential.

Even when the spraying solution is very strong and thick and the pump suddenly jumps the pressure to maximum, Goodyear Monterey Spray Hose unfailingly delivers the service required.

For Goodyear Monterey Spray Hose is lined with a rubber tube specially compounded to resist the corrosive action of chemicals and to hold high and sudden pressures.

The cover stubbornly resists abrasion. Pulled over plowed ground, rocks, fences and around trees, wagons and trucks, Goodyear Monterey Spray Hose does not chip nor crack.

Of balanced wrapped construction, it wears equally well throughout its entire length, does not develop leaks or bursts. Goodyear Monterey Spray Hose lasts a long time, and naturally costs less in the end. It is built to protect our good name.

Goodyear Monterey Spray Hose is obtainable in the size and ply best adapted to meet your particular requirements at the Goodyear Mechanical Goods Service Station.

THE GOODYEAR TIRE & RUBBER COMPANY  
Offices Throughout the World

GOODYEAR  
 SPRAY HOSE



# Forty million tires for 1920

## What kind of tires are they



*Here is a car that has run too close to the curb. Rubbing up against curbs will grind the rubber off the side of a tire, finally exposing the fabric to the action of sand and water.*

*A great many tires would last longer if their owners were only a little more careful not to scrape against curbs in stopping and starting.*

**I**F the average motorist could spend an hour or two in a vulcanizing shop—watch the tires coming in for repair with all their weaknesses showing—talk to the shop manager away from the cheers of the tire salesmen—

He would see what comes of thinking too much in terms of “concessions” and “allowances.”

\* \* \*

Concessions and allowances are what the irresponsible tire dealer lives on.

He finds it easier to convince a man that he will make good on a tire if it goes bad than to convince him that it won't go bad.

What practical motorists are looking for today is good tires

—not tires that may have to be made good.

And they are going more and more to the dealer whose business is based on *quality* instead of on chance.

\* \* \*

The United States Rubber Company stands back of that kind of a dealer with all the tremendous resources at its command.

It has staked a larger investment on quality than any other rubber organization. Its first thought has always been of the tire user—putting his problem

before the problem of markets.

Every important advance in tire manufacture has come from the United States Rubber Company—the *first straight-side automobile tire*, the *first pneumatic truck tire*, the *grainless rubber solid truck tire*, for instance.

The U. S. guarantee is for the *life of the tire*, and not for a limited mileage.

\* \* \*

Nearly every man pays for U. S. Tire quality, but he doesn't always get it.

If he did the country wouldn't need forty million tires this year.

# United States Tires

## United States Rubber Company

Fifty-three  
Factories

The oldest and largest  
Rubber Organization in the World

Two hundred and  
thirty-five Branches